Gleanings in Bee Culture

Created to help beekeepers succeed

August, 1951 - - Vol. 79, No. 8

Producing and Extracting Honey

By Ernest Fahlbeck, Rockford, Ill.

Mr. Fahlbeck in his apiary near Rockford.

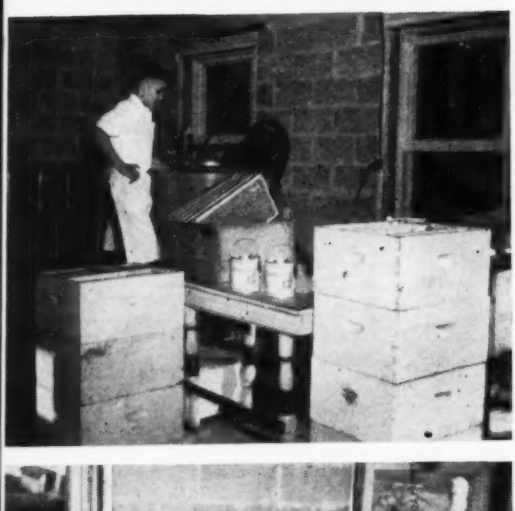
As I look back over the years since 1920, when I started beekeeping, I find that the management of a colony of bees throughout the spring and summer for the production of honey has changed very little in 30 years. We feed them in early spring to encourage brood rearing, introduce a young queen when the old one shows signs of failing, and usually "Demaree" at the beginning of the main honey flow, as a swarm control measure.

However, the methods, and the inventions of new machinery and equipment from time to time for extracting the honey are saving many hours of hard work for the beekeeper. How well I remember the sore wrist from uncapping with a cold

knife, and the backache from turning the extractor and lifting the honey too many times, from the bee hive to the place in the honey house where I store the 60 lb. cans of honey until sold.

I have a two-wheel trailer with a box that holds 24 full-depth supers with empty comb. I pile them two stories high. However, I haul only 10 supers full of honey at a time. I find the trailer very convenient and much more economical than to run a truck. The trailer floor is only 30 inches from the ground, making the job of loading and unloading easy.

A heated uncapping knife removes the old-time lame wrist resulting from the use of a cold knife.



I have a concrete block honey house, 24 feet by 24 feet, with plenty of windows and adequate lighting facilities, also a concrete floor, which is easy to clean. All windows have screens with a bee escape at the upper right hand corner as a way out for any bees that might be brought in with the supers of honey.

Having all of the extracting equipment lined up against one wall saves space and steps.

My extracting equipment is lined up along a wall so as to conserve floor space, and all things are as close together as possible, so each operator can stand in one place and reach the combs of honey to be uncapped or placed in the extractor

A signaling device prevents the honey from overflowing when the operator is busy elsewhere.

without taking more steps than necessary. Usually two persons uncap, while a third runs the radial extractor.

I have made the uncapping planes myself using ¼-inch copper tubing to carry the steam to the cutting blade. The blade is soldered onto ½-inch copper tubing. This makes a light weight plane and it stays very hot because of the rapid flow of steam through the ¼-inch tubing, resulting in very rapid uncapping.

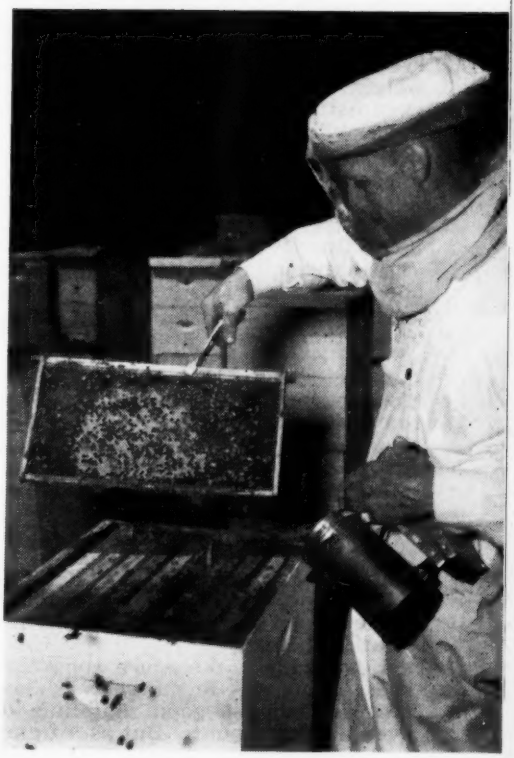
The cappings fall from the plane onto a ¼-inch mesh wire screen near the bottom of the uncapping tank, and drain over night.

The use of frame grippers makes handling of frames very easy.

A honey pump carries the honey from the extractor to the strainers. The two strainers shown are of a coarser mesh than the pail type which is just below them in the tank. When a strainer becomes clogged with bits of wax, the small pipe is turned over so that the honey may run through the other strainers, while the one is being cleaned.

Note the signaling device on the strainer consisting of a door bell, two flash light batteries, and an aluminum float. This device prevents loss of honey because of overflow when the operator is busy at the extractor.

After the honey in the tank has settled over night, it is drawn off into 60 lb. cans and is ready for sale.



Mr. Fahlbeck examines a brood comb. The use of tools, such as the smoker and grippers, allows the beekeeper much freedom of movement in that the fear of stings is greatly lessened.

We Don't Use Enough Honey Ourselves

By S. W. Edwards, Myersville, Md.

Beekeepers can use a lot more of their own fine product if they really want to. All beekeepers are concerned with the honey market, and some are actually engaged full time in finding new markets and new uses for the golden stream. We take the position, therefore, that there is a tremendous market for honey right under our noses; that we must plan how to exploit this tremendous market; and that it is high time we begin to unearth the potential profit lying dormant there.

First we need to ascertain accurately the total number of beekeepers. There is no unanimity of opinion on such a figure. If you get official USDA lists, how short of being accurate are they? If you compile from State sources, will they prove authentic? Certainly beekeepers' associations cannot, in every case, maintain an annual count. If the 1950 agricultural census, over the country, was mishandled in the slapstick, inefficient fashion that it seems to have been in our section of this county, its figures for beekeepers shouldn't be given much weight,—some of our people weren't even called on, and, of course, their hives will never be entered.

Now it is important, really, to get a good figure for our total of beekeepers. Let's look at the number for Maryland. How was this figure ascertained? I have heard varying explanations, but in the end I would not know, and I will therefore bet six of my best hives against six of yours that it isn't accurate. Could it have been determined by the following procedure: At a recent sectional meeting of the state beekeepers' association those present put down name, address and number of hives. Now, Jackson District is a political and geographical sub-division of Frederick County and there are at least 22 beekeepers with from two to 55 colonies. Three only attended; we registered 66 hives. Thus the colonies of 19 were uncounted. Someday official inspection will list most of them.

Nevertheless, there are some figures. They may or may not, as state records go, be a good sampling, or even a rough count. But as a figure which may be multiplied by a certain pre-determined constant for different honey producing sections of any state, they are at least significant. Thus, the constant for Jackson district could be 7.5 and would thus be applied: three official beekeepers registered x 7.5 equals 22 beekeepers all told.

All of us who keep bees are proud of the product we sell; and all of us believe that honey has certain health qualities which will benefit the consumer. Nevertheless statements appear in various publications from time to time derogatory to honey. How shall we know who believes them; and so convinced, refuses to ever buy honey?

New Cookbook Doesn't Favor Honey

Now note a quotation from a recent cookbook*, widely hailed as the only one which teaches the preservation of vitamins; and said by one radio nutritionist (who continually plugs for honey) to be the only cookbook not designed to put the reader under the sod. Here is the author's only statement on honey: "Honey has often been recommended by people posing as nutrition specialists; yet it contains an insignificant amount of vitamins and is almost lacking in minerals. It appears to bring about tooth decay as quickly as refined sugar. One tablespoonful of honey has more calories than a tablespoonful of refined sugar." How does one refute the implied insignificance of honey as a food in such a book; and how does one separate it from its unholy alliance with sugar as thus set forth, too? I can think of one way immediately; and that is for the beekeeper to use far more honey in his own family than heretofore; and make that fact known.

Now we have, after some search over a period of a year and a half, arrived at a few figures in round numbers which are not highly accurate, but close enough for our present purpose. Here they are, in a sense official:

Number of colonies in U. S. 6,000,000

*Davis, Adelle, Let's Cook It Right. Harcourt, Brace & Co., N. Y. C. 1947. P. 545.

Weight of honey production 210,000,000 pounds

Number of beekeepers 400,000

None of us can be certain if it is this 210 million pounds that we have trouble in selling at a profitable price, or whether this figure plus 25 percent or 33 percent or 50 percent additional covers our total production. I am inclined to believe that our total of honey produced in this country will be found to be from 25 percent to 50 percent higher than the official total. Nevertheless, taking the official figure at 210 million pounds, we still have quite a struggle getting it onto the market.

Our Beekeeping Family Uses 300 Pounds

I wish now to introduce a little history of how one beekeeper's family uses honey in the home. Our total annual consumption in any year is about 300 pounds and should it be a case of us or our customers, we would get other honey to sell them. We come first.

In canning time all the common fruits are canned with honey as we use no white sugar for anything, and we make no sticky sugar jams, jellies, or other sugared indigestibles. We have honey on the table, for whole wheat cereal, whole grain cereals, whole wheat and corn breads and in various mint teas. Honey just seems to go with these natural foods from whole grains.

Some Eat No Honey

The story is quite different with a neighboring beekeeper. In a family of five none eat their own honey, the most beautiful mountain comb in Frederick County, but get all their sweetening in sugar form from the chain store. When we recall that the subsidy figure of 9c per lb. is all that some beekeepers get for a part of their honey, it ill behooves any of them, in our opinion, to sell honey and buy back sugar for 11c. Nevertheless, we are fully aware that there is a definite quirk in the American temperament, arising from ignorance, or custom, or something, which makes the farmer sell rich, vitamin-filled cream and buy back oleo for his children; sell his fat-breasted fowl and beautiful ducks, and bring home store baloney and hot dogs; and, if a beekeeper, sell his honey for 25c a section and bring white sugar and coal tar saccharine pills from the store. The really astonishing thing is that the wife and mother of the brood aids and abets this procedure.

All of us who read bee literature know that honey is a very wonderful product; a natural, basic food for humans; and when removed from the hive is a pure, untouched and undefiled gift from heaven, combining as can be done in no other way, the essences of so many flowers and the many values of their nectars. And this leads me now to this startling statement: If each of all the beekeeping families in this country would use per year a total of 150 pounds of honey or just one-half of what our family of four uses, that at once a new market of 60 million pounds would be effective in the field of honey marketing. The USDA figure for a sugar-consuming family of four is 400 pounds, and that much sugar just isn't good for any family, even a beekeeper's.

Sixty Million Pounds is a Lot of Honey

This is a lot of honey for beekeepers to use themselves. Some have no families; some are wedded to sugar; some say they can't supply their own local trade, and these latter are in the position of the farmer who had no milk for his children since there wasn't enough for the pigs. Other beekeepers disdain the golden stuff they try so hard to sell, would rather buy cheap, less healthful sweets and deprive their children of a needed, health filled product. And thus it follows, if answers to our questions hereabout are any indication of the amount of honey used at home by beekeepers around the country, that I am almost ashamed to state that the amount may be next to nothing. How in time can we keep a straight face when we push honey, and at the same time won't use it ourselves?

Use More Honey in 1951

The honey season of 1951 is now well started. If every beekeeper who reads this will increase his honey use at home to at least 75 pounds this year and next year, 1952, attain a maximum of 150 pounds, and in addition, talk a neighboring beekeeper into doing likewise, a big brand new market will have arisen and a few of our marketing worries will be over. What about it, Mr. Beekeeper?

BEES MAN'S MOST USEFUL INSECT...
BUSY BEES
80,000 trips of one mi. each, a distance 3 times around the globe, is required of one bee to produce one lb. of honey.
From egg to bee in 21 days
THE HONEY BEE IS THE GREATEST POLLENIZER, OVER OTHER INSECTS, BY 82%

Such a display with this model of a bee excited a lot of comment.

Man's Most Useful Insect

By George C. Nagel, Maplewood, Mo.

How we cooked up the idea of an educational exhibit on beekeeping for the windows of a bank in St. Louis isn't of material importance. The fact that the idea crystalized and the display took form is significant. What has been done, it is generally true, can be done again—and therein lies the value of the exhibit in question.

Of course, there have been displays devoted to beekeeping in many localities—the idea is far from new. But, the treatment of the subject, its educational character, the general public interest in bees in one of America's largest cities, give the exhibit its unique value.

If the display could be made a truly outstanding work and could arouse more than ordinary interest, an example would be set, with the attendant experience that could be followed in other communities, all to the advantage of emphasizing in the public mind the place of the honey bee in our general economy.

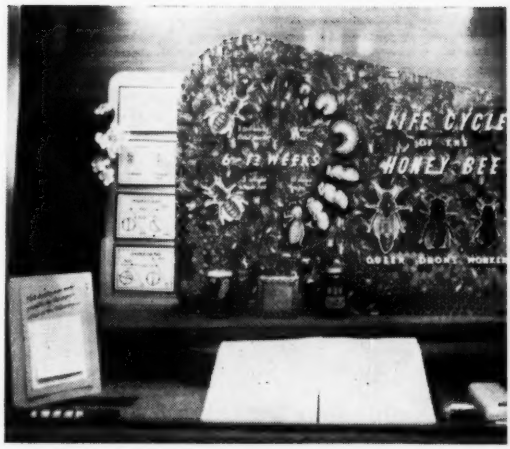
What went on in the initial conference between Bank President Tom K. Smith and Eastern Missouri Beekeepers' President, August P. Beilmann, has not been disclosed. Suffice it to say, Beilmann sold a bill of goods .... and bank presidents are generally considered sharp bargainers.

Boatmen's National Bank is the oldest bank west of the Mississippi, and among the largest in the middle west. Doubtless, the suggestion to devote the windows of the bank to beekeeping was so unique that President Smith recognized the opportunity to foster something of wide public interest in the community.

Executive Vice-President Paul W. Harper was selected to supervise the work. Frank Faquin, an excep-

tionally fine artist devoted to creating and producing display material, was commissioned by the bank to execute the layouts and install the exhibit. Shortly, Beilmann and I were invited to a conference. Neither Harper nor Faquin had ever seen the inside of a beehive. One snowy afternoon I escorted them to a St. Louis County apiary for their first introduction to beekeeping.

Now the undertaking was beginning to take shape. We couldn't just dump a lot of beekeeping supplies in the windows. Many conferences were held in the Board



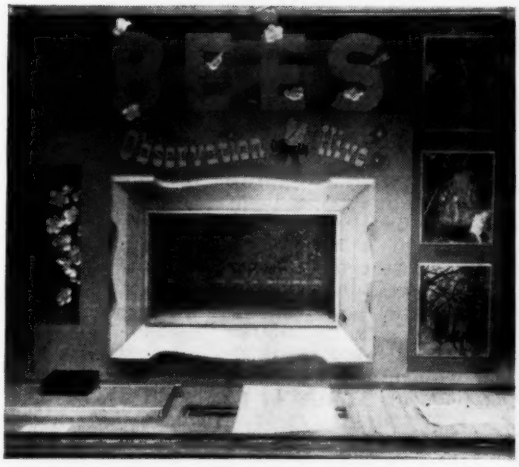
All of the displays were of an educational nature.

Room of the Bank; ideas began to materialize. The exhibit must be educational in character. A theme must be provided. I hit upon the slogan, "Man's Most Useful Insect." It was adopted. This, naturally, led to the part the honey bee plays in pollination. The work of Beard, Dunham, and Reese, released in the Ohio Experiment Station Bulletin on Clover Seed Production was brought into evidence. Now we were on our way.

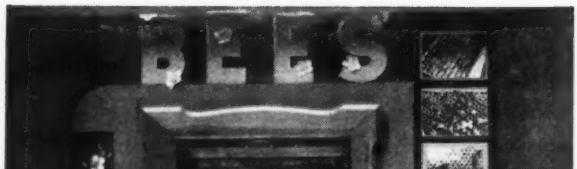
The artist progressively prepared and presented large tissue layouts.

Flowers not only add to the beauty of a display but give it a romantic flavor.

Color values and combinations were studied. Since the project would be visual, photographs were in demand. Letters went out to Cale, Kelley, Alan Root, Dr. Jim Hambleton, Carl Killion, Woodrow Miller, and others. The cooperation received certainly was commendable. As the photographs came in they were studied and evaluated. Some could not be used because they duplicated apiary scenes depicted by other photographs. Scenes in commercial honey houses showing mass extraction and bottling would have found



An observation hive is always sure of a lot of attention.



Two observation hives—one in each window were used. Good clear enlarged photographs were used in both exhibits.

a place in the exhibit, but were not among those contributed.

Bees in their natural habitat, it was determined, should be included. Some 40 miles from the city Mr. Beilmann discovered a bee tree. A section of the tree, requiring the efforts of four men to load, was carted to the artist's studio, only to be returned for splitting up to fit into the display. Fortunately, the cutting of the tree did not reduce the number of wild pollinators in its locality, since inspection showed natural predators had robbed out the stores during the winter, leaving the bees without food.

Statements of the importance of bees in pollination might be subject to question by the uninitiated public. Ed Mangelsdorf & Bros., Inc., dealers in field seeds, willingly cooperated by supplying the various samples of legume seeds displayed. .....It was recalled that a large model of a honey bee was used in the courses in entomology at our State University at Columbia. Mr. Beilmann journeyed to the State seat of learning and, through the courtesy of our State Entomologist, was loaned the model shown in the accompanying pictures of the windows. ..... Counting copies of magazines, American and foreign, Honey Institute cook books, a cross-section of a hive, samples of pollen, both American made and foreign smokers, etc., the exhibit totaled 76 items beside a score of photographs.

The value of live bees in such a display was obvious. Observation hives had to be secured, and sources of frames of brood and bees established. As the project was studied, officers of the bank visualized crowds congregating around the one window displaying the observation hive, and at the expense of excluding other material of possible interest, two observation hives were determined upon. Since the bank is located on a corner, one hive was displayed in a window on the Broadway side and another around the corner on Olive Street.

Sensing public interest, as the matter took shape, the bank officials proposed permitting the receptionist in the bank lobby to distribute literature .....Alan Root very kindly supplied reprints of the Ohio Experiment Station Bulletin; Dadant furnished a supply of Roy Grout's booklet on Pollination; sample copies of Gleanings, American Bee Journal, and Modern Beekeeping were stacked on the receptionist's desk, along with other leaflets and folders on beekeeping, pollination, etc. Every day or two I would receive calls from the bank for more literature.

Special recognition is due Carl Killion for furnishing display jars of pollen, a pollen trap, some of his fine section honey, and a copy of his new book "Honey in the Comb." (The latter, after it has been autographed by the author, will become a prized memento in the beekeeping section of your reporter's library, where will also reside the newest edition of "The Hive and the Honey Bee" which Roy Grout autographed for me.) Recognition, too, must go to Walter Kelley for lending his collection of European gadgets - a straw skep, etc; to the Dadant organization, the Roots, and Dr. Hambleton of USDA, for the literature and magazines that were contained in the exhibit. I sustained a secret chuckle while inspecting the exhibit,

myself, observing an elderly gentleman translating aloud the title page of the magazine Southwest German Beekeeper which Cale supplied with other foreign magazines.

Certain that the exhibit held educational value, I dispatched letters to the Superintendent of Instruction of the St. Louis Public Schools and to the local Commissioner of Boy Scouts. That there was agreement in this was prominently brought to my attention later when, from my office window just across the street from the bank, I saw groups of school children, accompanied by their teachers, observing the windows. Scout Masters brought their troops to see the show.

That public interest in beekeeping does exist, and to a wide extent among city folk, can best be suggested by the fact that, initially, the exhibit was scheduled to be shown for one month, but remained in place for six weeks - and then was removed with some reticence. The two observation hives were replaced seven times during those six weeks. This required round trips of 86 miles for each replacement, between Mr. Beilmann's apiary at the Missouri Arboretum and the bank in downtown St. Louis. Knowledge acquired by the officials of the bank that not only were 14 brood nests necessarily disrupted but time on the part of both Mr. Beilmann and myself was required, helped make the decision finally to terminate the show.

And, believe it or not, the local Humane Society became interested, too — and in a way not anticipated! The bank was advised that several phone calls had been received by the Society, complaining that dead bees were visible in the observation hives, a condition which could be considered cruelty to animals. The complainants doubtless had failed to read the signs in the windows calling attention to the fact that hidden from the public view were feeders for both hives.

I prepared letters of explanation to the editors of our three daily newspapers, which were prominently printed — and no further complaints came in..... This was the only occasion when my name was used in connection with the display. Suspicion that I might be self-seeking in the part I was taking in the project urged me to remain unknown. But, in the release to the newspapers to counter complaints, it was necessary that my name be used as an official of Eastern Missouri Beekeepers. And now, contrary to fact, I am looked upon as an authority on beekeeping! The fat was in the fire!..... The officer directing traffic at Broadway and Olive streets leaves his post in the middle of the street and wants me to point out the queen in one of the observation hives..... Attorneys with whom I am acquainted in my office building insist upon my explaining bee culture to them..... .... As I cross the street I hear: "Hi, Beekeeper!"..... My office phone rings, and comes the question: "Is dis de man wat knows about de bees? Tell me, where can I get some goot ones?"..... A society leader in St. Louis County, seeing my name in one of the dailies, commissions her maid to contact

Books and booklets are a welcome addition, too. The reflection of the photographer in the glass window gives this picture a strange appearance.

me to learn how bees that have taken up habitation in her guest house should be handled. "These important little pollinators must not be harmed, but they really do not contribute to the comfort of my guests."

And so, I give warning to each association secretary who may choose to promote a similar exhibit that he remain un-named and strictly behind the scenes.

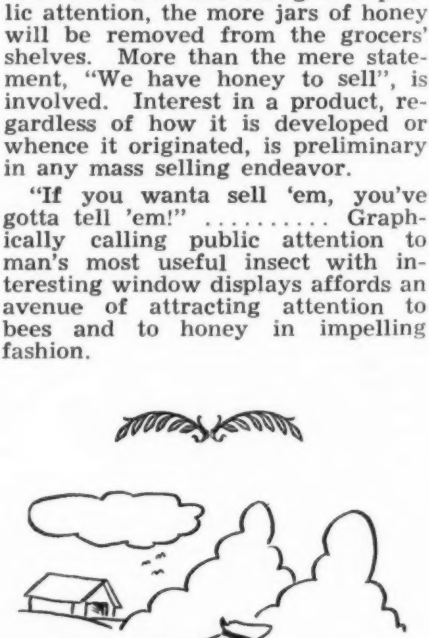
A discussion of the exhibit would not be complete without touching on its commercial aspect. Across the street from the bank is one of the Thompson chain of restaurants, very convienient for a cup of coffee. It was there today that I was introduced again to one of Missouri's former senators..... I suggested to the manager of the restaurant that his establishment could take advantage of the display by featuring honey. This was done, with announcements in the window and on a wall of the restaurant. How many guests were attracted is not known as this article is being written, but it is no conjecture as to the quantities in which restaurants may buy honey.

Another outcome has been the request, made by the President of the local Restaurant and Caterers' Association, for a speaker to appear at one of the organization's meetings. Our display called his attention to honey. Restaurant managers, as a matter of business, are constantly seeking new dishes. "But", he said, "We don't know how to use honey in the preparation of menus!" Herein lies an opportunity for the beekeeping industry to promote honey. What is required is a qualified authority who can lecture on the subject and demonstrate to restaurant managers throughout the country, at their local meetings, how delectable dishes containing honey can be prepared. Providing chefs and restaurateurs with recipe leaflets isn't the answer to the problem. Personal demonstration and discussion is the thing..... Prepare the dishes as an invited guest speaker. Let these fellows sample them. Show how to prepare them. The result will be increased consumption of honey.

It is hoped that associations elsewhere will foster exhibits such as Eastern Missouri Beekeepers have done here in St. Louis. It will be much easier than initiating it as we have done. My files show upwards of 50 letters written by the Secretary, alone. President Beilmann could increase this total were his efforts added. You see, handling correspondence is always the Secretary's job. But, now that the pattern has been set, similar displays can be promoted with a good deal less time and energy.

What has been proved is the fact that the public is interested in beekeeping, and that interest can be made to pay off to the benefit of the industry at large. **If we want to increase the consumption of honey in this country, we must put greater emphasis on our public relations.** The more bees are brought to public attention, the more jars of honey will be removed from the grocers' shelves. More than the mere statement, "We have honey to sell", is involved. Interest in a product, regardless of how it is developed or whence it originated, is preliminary in any mass selling endeavor.

"If you wanta sell 'em, you've gotta tell 'em!" ..... Graphically calling public attention to man's most useful insect with interesting window displays affords an avenue of attracting attention to bees and to honey in impelling fashion.



"What do I need with a book on muscle building? I've been packing supers around all summer."

How to Raise Good Queens

By A. V. Thomson, Troutdale, Oregon

A number of correspondents have asked me to inform them on the subject of queen rearing for back-lotters and small producers, so I believe a timely article on this subject may be of some interest.

Pick your choicest colony and set it in a place by itself. This is to be your **breeding colony** and the job for the queen (your very finest) is not only to keep her own colony up to strength, but to furnish eggs for your queen rearing. See that everything about this colony is in the best of order.

We will call this colony the **breeding colony.**

When the first drones appear in the spring start your queen rearing operations. Time your work to fit in with the time you make divisions or start nuclei, remembering that it takes only 16 days to raise a queen.

Take a **good strong** colony and move it over by the side of your **breeding colony.** When they have settled down you can make the next step. If the bees are moved at night and the entrance plugged tightly with grass, the bees will gnaw their way out gradually and the remaining grass may be removed the evening of the third day and practically no bees will be lost. These bees are **cell builders.**

Now deprive your **cell builders** of their queen. Then go to your **breeding colony** and remove a frame of brood containing mostly eggs and young brood. The eggs will generally be found in the bottom part of the comb. Have ready an empty frame provided with a sheet of foundation from which the bottom third has been cut away and a wooden bar placed across the frame under this cut foundation sheet. Cut a strip one cell in width from the comb taken from the **breeding colony** and containing only eggs. In cutting this strip you will have to destroy a row of cells above it and generally one below it. Fasten this strip to the bar in the prepared frame with melted beeswax, being very careful and using a small brush. Now, with a thin, pointed, sharp knife destroy every other cell in this strip, but leave the bases intact. This being done, place the prepared frames in the **cell builders,** now queenless and mourning. They will go right to work building queen cells. Mark the date on which this frame is given the **cell builders** on the side of the hive, and keep watch. Ten to twelve days later you will find a row of fine fat queen cells ready for introduction.

At this time remove these cells very carefully, for a bruised cell will result in a worthless queen or no queen at all. As the cells are removed take them to the colony or nucleus for which you require queens, remove a frame of brood, gouge out a small piece the size of a half dollar (do not cut through the foundation), carefully put the cell in place with the small end pointing downward and outward, holding the cell in place by a couple of staples made by bending straws (grass stems are fine) and the bees will fasten the cell in place and remove the straws.

In due time, the queen will emerge, fly out and mate, and you will be saved considerable money and possible delay.

If you want quite a few queens prepare your frame with only three bars at equal distances. In this way I have taken as many as 75 good cells from one frame. Your **breeding colony** should have plenty of drone comb so that you will have a large number of choice drones and your chances of a poor mating will be reduced to a minimum.

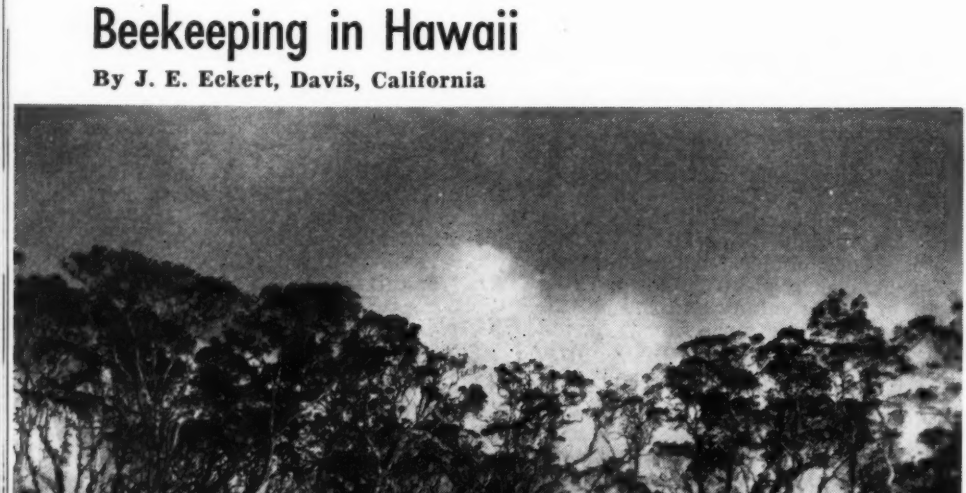
You can regulate the number of **breeding colonies** and **cell builders** to suit your requirements.

The **cell-building colonies** should be re-enforced from time to time by frames of **sealed** brood, nothing from which they can attempt to raise a queen except the prepared strips.

Bear in mind that this work is particular work, use care in doing it, use sharp tools for cutting and remember you are not chopping wood. In this way you can raise as fine queens as ever were bred and have a lot of fun doing it. Besides it is very satisfying to know that you can raise as fine queens as anyone and are doing so. Then there is the saving in money. Try a few.

Beekeeping in Hawaii

By J. E. Eckert, Davis, California



Ohia trees near Volcano House on the Islands of Hawaii. Tree ferns cover the ground around the trees.

(Continued from July issue)

Production of Beeswax

The cappings are generally allowed to drain for a day or two and then are placed in solar extractors. These "sun wax melters" are usually so deep beneath the tray on which the cappings or combs are placed that the wax congeals in the box. The congealed wax is then washed and boiled in steel drums. The honey is drawn off daily and is darker than the extracted honey from the same floral source. The older combs and the slumgum are usually boiled in steel drums and the liquid wax dipped off. Some of the beekeepers have wax presses and some use steam as the source of heat in their boilers and presses. Considerable wax could be saved by an improvement in the method of rendering the wax from the cappings and combs, and labor could be saved by improving the construction of the wax melters so the wax and honey would run from the melters and be separated by gravity.

The beeswax is of high quality and is easily bleached, probably because of the general scarcity of propolis during the nectar flow in the kiawe locations. Propolis is so scarce, in fact, that bees will rob and tear down sheets of foundation if given access to a pile of supers or to foundation in a warehouse. They pack the small pieces of beeswax in their pollen baskets and carry them back to their hives. Bees have been known to remove putty from window frames and fresh paint from the sides of houses. In the fall of the year, thin, tar-like propolis is gathered by bees in many kiawe locations.

Enemies of Bees

The Greater Wax Moth. The greater wax moth is one of the worst enemies of the honey bee in the Islands. Weather conditions are favorable for its development throughout the year when the bees are kept. A few larvae were found in practically every colony and combs are generally destroyed within a week or two whenever a colony becomes too weak to protect all of its combs. Brood combs are attacked first but super combs are also destroyed. For this reason, colonies are given no more combs than the bees can cover at any time of the year. On Niihau, the colonies are reduced to one story at the close of the honey season, and all surplus combs are then melted for beeswax. A few colonies are left in two story hives, but not many. On the other islands, colonies are generally wintered in two and some in three stories. Some beekeepers leave only four or five combs in the supers during the winter period. Only a few beekeepers in the territory fumigate their surplus combs as protection against the wax moth.

It was a rather common occurrence to find one or more sets of combs totally destroyed or very badly webbed by the wax moth in any of the apiaries visited. A colony that swarms more than once, or one that becomes hopelessly queenless, or badly diseased, or weakened from other causes, may fall a quick prey to the wax moth but colonies strong enough to cover their combs are seldom injured. The wax moth may be a factor in reducing the spread of American foulbrood in the Islands because of its quick destruction of the combs in a diseased hive, tree, or cave.

Of the many thousands of cocoons of the wax moth observed, I did not see a single parasite in or around them. Many cocoons were perforated and destroyed, but this was the work of the big headed ant, **Pheidole megacephala**, one of the most common ant species found on all of the Islands.

The Argentine ant is becoming established on the different islands and may some day be a greater pest than the big headed ant. In one area on Oahu, the Argentine ant destroyed several colonies which were placed on the ground and the owner stated that they soon bridged over any barrier he had tried. The Argentine ant seems to have been brought, accidentally, to new locations on the Islands by military establishments during World War II. I happened to discover two new infestations of this ant during this survey, one at Kamuela on Hawaii and the other some miles east of Wailuku on Maui.

Toads are numerous in and around apiaries located near where the toads can breed. In one apiary on Kauai, several hundred toads had gotten through breaks in the fence or barrier which had been erected to keep them out. They catch numerous bees on the ground or at the entrances of the hives and are said to jump as high as 21 inches, when necessary, to catch the bees. They also eat ants and other insects but they may become a major pest in the apiary unless precautions are taken to fence them out or to place the hives on stands high enough to place the bees out of their reach.

Termites. Both the soil inhabiting and the dry wood termites are found in abundance everywhere. It is not uncommon to find various parts of a hive, occupied by bees, destroyed to a thin shell by these pests. Even various parts of frames around the combs are destroyed. There is no remedy for the dry wood termite but separation from the ground will prevent the soil infesting form from getting into hive parts.

Bee Diseases

Mention has been made of the occurrence of American foulbrood in the different islands and Table 1 (page 397, July issue) indicates where it was found during the recent survey. No European foulbrood was observed but it is possible that it may be present during the spring months. Sacbrood was observed in many colonies but occurred mainly as occasional cells. In only isolated cases was it present in sufficient quantity to reduce the amount of the brood by an appreciable extent.

It was not unusual to find the brood scattered sufficiently to indicate the possibility of a lack of vitality due to inbreeding. Sometimes this is difficult to distinguish from a characteristic of poor queens and could also be confused with a mild case of European foulbrood (the

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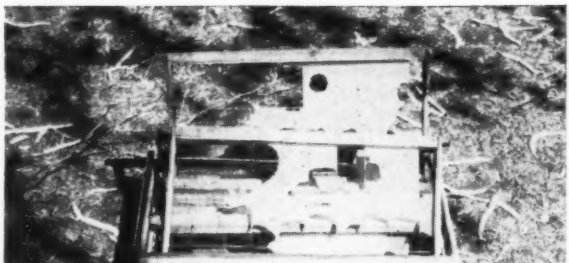


Bees will destroy foundation stored in hive bodies stacked in the apiary. This, probably, is because of a scarcity of propolis.

typical color of European foulbrood was generally lacking).

In one apiary large patches of bald-headed brood was observed and was considered to be a probable defect of inbreeding. This occurrence was not caused by the wax moth.

Resistance to American Foulbrood has been mentioned earlier and may be developing on the other islands as well as on Molokai. During the time of the survey, Mr. Luce and I observed the reactions of eight additional colonies near Kaunakakai which we infected with American foulbrood. Two of these colonies were headed by artificially inseminated queens from the Molokai stock established in the University of California apiary at Davis. One of these two colonies recovered from its initial infection and cleaned out the scales of the infecting comb **before** any of the brood of the newly introduced queen had emerged. The other colony apparently could not cope with the infection and was treated with sodium sulfathiazole. Three of the other colonies recovered from the initial infection and the three remaining colonies seemed less resistant and were fed sulfathiazole. All eight colonies were isolated and will be subjected to frequent inspections.

While no attempt was made to inspect more than a portion of the colonies in the apiaries visited, a sufficient number of infected colonies were found to indicate that the factor of resistance to American foulbrood had not developed to the point where the beekeepers could neglect to make periodic inspections of their colonies as a means of keeping this disease under control. It was recommended that each brood chamber be inspected for disease early in the spring and again near the end of the nectar flow. (Poor combs and poor queens could be eliminated at the same time.)

Nosema Apis

A microscopic examination of worker bees on Molokai, Hawaii, and on Oahu indicated infection by this parasite. I would suspect it to be present throughout the territory but to what extent and importance has yet to be determined.

Floral Sources

Plant distribution on the Islands is limited by soil, elevation, and climate, and the broad effects of the Pacific Ocean regulate the climate. The mean temperature of the water is around 75 degrees while that of the air is 74 degrees. One of the most important features of this oceanic climate is the small annual range of temperature. March is usually the coolest month and September is the hottest. As one goes inland from the coast, the temperature changes vary with the elevation and distance from the coast. At the higher elevations the temperature is cool and invigorating.

The topography of the Islands varies from flat coastal plains to steep, mountainous slopes, with the altitude varying from sea level to 13,784 feet (on Mauna Kea). The soils vary from new lava formations to well-weathered types. Rainfall varies from a few inches to 250 or more inches a year. (One place on

Kauai has a rainfall of 600 inches - 50 feet - while only a few miles distant, the rainfall amounts to only a few inches.) Heaviest rainfall occurs in the mountain areas and on the windward sides of the Islands. The prevailing winds are from the northeast and provide the source of water supply for most of the Islands. Kona storms from the southwest bring rains to the plains and leeward coastal areas.

Algaroba, known generally as "kiawe" in the Islands, occurs on the coastal flats and gullies of the dry sides. On the flats the kiawe forms a solid stand of shallow rooted trees while on the slopes they occur more openly as individual trees or clumps of trees with a stunted growth. On Lanai the trees are almost prostrate along the North shore line. Most of the nectar is secured from the kiawe on the low flats but in "wet" years, the trees on the slopes yield more abundantly than in dry years. The honey is water white to white in color, rather thin in seasons of high humidity, and granulates within three to four weeks after it is stored in the combs. Its flavor is mild. The moisture content of sealed kiawe honey may vary from 17 per cent to 21 per cent, depending on the humidity in the atmosphere and the length of time it has been stored.

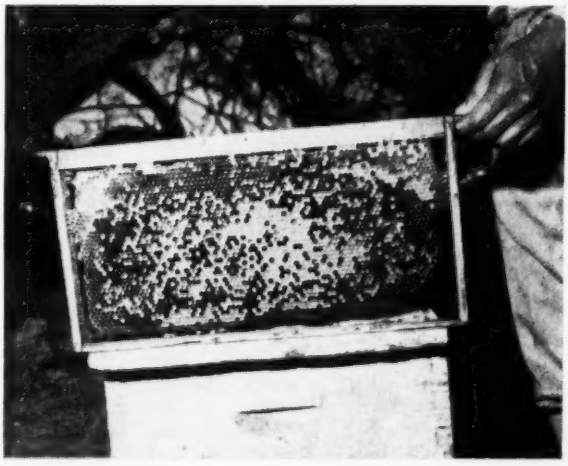
Kiawe is a legume and produces beans used for cattle feed. It may have two periods of bloom, from early spring to August and another flush of bloom in the fall, although the trees usually have a scattering of bloom throughout this long period.

Lantana covers many areas from the coastal slopes to where the forest area begins. Bees gather pollen and nectar from this source, the honey being light amber to dark in color and strong in flavor. Other shrubs are the **guava, koa haole, klu,** and **cactus.** Koa haole is said to yield a heavy, white honey where it occurs in abundance on Kauai and on Niihau. Cocoanut palm trees are a common sight in the coastal areas and bees eagerly seek their blossoms. The honey produced from the palms is dark and of strong flavor.

Kukui trees, with their conspicuous light green leaves, occur in lower gullies and slopes. Some beekeepers report them to be a source of nectar and pollen but I could never find any bees visiting their blossoms. On the windward or wet sides of the Islands, the **Java plum** is found at the lower elevations and on the slopes. This source yields a commercial quantity of a light amber baking grade of honey that is slow to granulate.

The **Ohia** is the characteristic tree in the wet forests from 1500 to 4000 feet elevations and on the newer lava flows at lower elevations. Its pompom-like crimson blossoms are visited by bees for both pollen and nectar. Honey produced from it is light amber and of pleasant flavor. **Eucalyptus** trees have been planted in the higher elevations by the hundreds of thousands and constitute a source of both nectar and pollen during the winter period.

The beekeepers of the Islands can



This comb contained a large number of "bald heads", pupae in unsealed cells. It may have been an evidence of inbreeding.

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take greater advantage of this source of food supply and use the source to carry their bees, or to build up increase, during the winter period.

On the islands of Maui and Hawaii on the upper slopes of the high mountains are vast areas of open land suitable for cultivation and grazing. Various clovers, including white Dutch and sweet clovers, are found in abundance. No colonies of bees were kept on thousands of acres of this grazing land on the Parker Ranch on Hawaii. Wild honey bees are found on the blossoms but the area has not been tested for its honey production. The weather conditions are favorable and if the legumes yield as they do at similar elevations in other parts of the world, the area would support several thousand colonies.

Mr. Penhallow, assistant manager of the Parker Ranch and Mr. Akana, the county agent in that area, expect to test the honey-producing possibilities of that region in 1951. (The Parker Ranch will need a good, young beekeeper if their tests prove favorable.)

Honeydew

At one time, bees in Hawaii produced a large amount of honeydew from insects infesting the sugar cane. The introduction of parasites has eliminated this insect pest to where it is no longer a factor and no honeydew has been produced from this source for many years. The harvesting of the sugar cane has also been mechanized to where it is harvested by huge machines and loaded on trucks mechanically. The leaves are burned off prior to harvesting and the fire causes some of the sap to exude and to become caramelized. This the bees will gather but harvesting operations begin while the fields are still burning and the bees have little time in which to work this source. On occasion, however, small amounts of it are mixed with kiawe honey on Oahu, Kauai, Maui, and on Hawaii, and reduces the quality of the honey. It can be detected easily. No cane is raised on Molokai or Lanai, and no cane is grown near the kiawe area on the Big Island,—Hawaii. Bees are seldom attracted to the thousands of acres of pineapples grown on the different islands.

Prospects for the Future

The acreage of kiawe is being reduced gradually on all of the islands but Niihau and Lanai to make room for the building of homes and for agricultural purposes. However, the acreage today is greater than it was 30 years ago, excepting in a few areas, and is sufficient to provide pasturage for an increased number of colonies if the colonies are distributed properly. The custom of erecting honey houses at each apiary site should be discontinued for the more flexible system of central warehouses or for the portable extracting outfits. At present, many apiaries are too large for the changing conditions and it is difficult to move apiaries or to haul combs of honey in warm weather when the frames are not wired.

Production could be increased with the present number of colonies by the improvement in the combs, by the selective breeding and systematic requeening of the colonies, and by improving the methods of management in supering and in swarm control.

Improvement can be made in the extracting and processing equipment by the use of steam heated uncapping knives, by the use of gasoline engines to operate the extractors and to pump the honey to clarifying tanks, and by the installation of hot water coils in honey tanks to facilitate the clarification, processing, and straining of the honey. The moisture content of the extracted honey can be controlled to a greater extent by removing the frames of sealed or nearly sealed honey during the early morning hours before the bees have an opportunity of filling the unsealed cells with green nectar. Acid boards can be used in many cases for this purpose.

The transportation rates on the equipment the beekeepers have to buy and on the honey they have to sell are such as to necessitate a minimum wholesale price to the beekeeper of approximately nine cents in order to return a profit on his investment. The production of beeswax from the poorer grades of honey is a possibility of increasing the returns but this would require an improvement in the methods of converting combs or cappings into commercial wax.

(Continued on page 509)

The Tale of Two Fall Honey Flows

By Howard J. Rock, Dale, Wisc.

Ordinarily, we think of a fall honey flow as something extra as far as actual honey production is concerned, **but** how would you evaluate a steady fall flow as a "conditioner" for wintering success and healthy spring build-up?

From my own experience I would say that to the average commercial beekeeper, who must show a profit to survive, a fall honey flow is worth thousands of dollars.

First of all, let us have a definition of the term fall honey flow in regards to time and place.

As a rule, beekeepers have good reason to fear a late flow from aster if they live in the northern tier of states because the aster nectar is hardly ever ripened enough since the bees haven't a chance to do it with the usual cool weather of late fall. In North Carolina an aster flow is very welcome because there will be plenty of warm weather after the flow terminates.

In the northern tier of states, what is often called a "fall flow" is actually a part of late summer as much as fall. A good example of this would be the goldenrods which secrete nectar so very copiously in many eastern and northeastern locations provided there is fair and warm weather during their bloom.

It is about the goldenrod honey flow that I am writing. The locale is New York State, never mind the exact location, in a very excellent goldenrod territory.

The summer of '49 in New York State was quite poor for white honey in my community so that the bees entered the fall season in a very mediocre condition; old, failing queens, paucity of pollen, very light in honey, just in poor condition.

Fortunately, the weather during August and September was fair and warm with a maximum number of flight days. Those few colonies in good condition stored perhaps 35 pounds of nice light goldenrod honey which nearly graded white. However, what was most striking was the 1000% improvement in the hundreds of under-par colonies.

Each colony superseded its old queen, plugged the food chamber full of A-1 winter stores and raised a large cluster of young bees to go into winter.

How much would you say that each of these prime colonies was worth? At least twice as much as the best package colony you could buy next spring and I base my opinion on an experience in every major honey producing area in the U. S. and some seasons have installed as many as 1500 packages.

Provided that your stock is good, you can't buy queens that are as good as those reared naturally in a fall honey flow. I have reared over 100,000 queens artificially and would still prefer supersedure queens reared in a buckwheat or goldenrod flow if the parent stock has proved itself.

If the queen is reared in late August or early September she will have time to rear a good, young winter cluster which practically insures wintering success to the careful experienced beekeeper.

Now let's jump ahead to the '50 season. During the first spring inspection the bees never looked in better condition. However, due to weather conditions the white honey flow never looked worse, in fact it "just wasn't." Again the colonies slipped back to a very mediocre condition. There was no reason to worry as the goldenrod flow would put them in the "pink" again. In fact, goldenrod plants made a profuse, healthy growth during the summer of '50 as they had plenty of rain.

One farmer of my acquaintance had heavily fertilized a big field with intentions of plowing it. Because of lack of help he never did plow the field but he later told me that it grew the biggest, tallest goldenrod he had ever seen.

In spite of excellent prospects and much goldenrod the flow never developed because of cool rainy weather.

The mediocre colonies regressed to just plain poor because of procrastination as everyone put off feeding sugar in the hopes that the goldenrod would still give out with nectar.

Packing time found the colonies with old queens, very little honey

(Continued on page 508)

New Device for Your Bee Hives

By Tom Max, Matador, Texas

It Lets the Bees Fill the Honey Jars

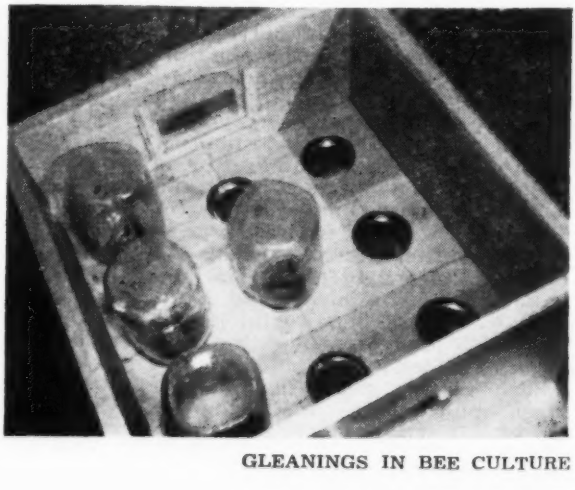
The three parts of the hive. The bottom part is like an ordinary hive. The top part has a partition in it which holds the jar rings.

Mrs. Mintie Pearl Elliott of Glen Rose, Texas, has come up with something that will be a great help, in the near future, to thousands of people who raise bees. She calls it the "Honey Bee Self Jar Filler Invention." It is a bee hive with this new device added and it does just exactly what its name says. It is constructed so as to enable bees to fill jars with honey.

The hive is made much on the same order as the ordinary bee hive. It is divided into three sections, in which the middle and bottom sections are built like ordinary hives. The top is the part which is different. It has a square frame with a partition in it the thickness of a regular fruit jar ring. Round holes are made in the partition large enough for jar rings to be inserted, so that jars can be screwed in and out of the rings. The section holds nine quart jars and when in place, the jars are upside down. The bees start from the bottom of the hive and work upward, filling the jars last. This makes it easy to keep the jars replaced and not to disturb the bees while doing so.

Peep Windows Facilitate Matters

The lid fits down closely on the hive and should be removed while the bees are in the process of filling the jars; so for convenience in see-



A close-up showing the top part of the hive with the jar rings in place and a few quart jars screwed into the rings.

ing whether or not the jars are full of honey, there are two small peep windows in the top section, on opposite sides to look through. When the jars are full of honey and comb they are removed and empty ones take their places.

This new method of robbing the bees eliminates the bee veil, smoker, and gloves which go with removing honey from the ordinary bee hive. Mrs. Elliott stated that it sure cuts down on the time she has to spend on her bees.

Another good point about this hive is that it can be used inside or outside of a building. Mrs. Elliott has one in a small room joining her house. The hive is placed in front of a window, with a chute leading outside. **The only** entrance the bees have to the hive is through the chute. Therefore they cannot get into the house. Mrs. Elliott has three swarms of Italian bees in this type of hive, and one swarm outside. She likes the Italian bees best because they are of gentle nature and she finds it amusing to watch them. "I can sit for hours at a time and watch them work," she said.

This invention was patented in 1949, and Mr. Elliott builds the hives in his work shop to sell. They are sold on a small scale to friends and associates. It would be quite impossible at the present time for him to furnish every beekeeper who wanted them.

When assembled the hive looks like any ordinary hive.

Upon being asked where she got the idea for her invention, Mrs. Elliott answered, "I wanted to raise bees, but I couldn't find a bee hive like I wanted. To remedy the situation, I just thought up a plan in which I wanted the hive made, with the self jar filler added and gave my husband the task of making it." Mr. Elliott, a carpenter, obviously didn't find the task too difficult for he completed the project in one day.

Beekeepers Can and Should Help Themselves

By R. E. Newell, Medway, Mass.

The article by Charles W. Gouget, in October 1950 Gleanings was well worth reading. It was not only interesting and entertaining, but if more back-lot beekeepers were like the Gouget family, beekeeping would not be as unprofitable and uncertain as it is today.

Beekeeping whether as a sideline or a full occupation must be run on a business basis. The troubles affecting the industry are low honey prices, and high prices for beekeepers' supplies, and everything else a family needs to make a living. It is quite impossible to make a living from bees while selling honey in 5-lb. pails at 59c, or furnishing bees for pollinization at $5.00 per colony. Twenty years ago these prices might have been good, but today with hives, bees, and supplies about three times higher, and everything else a family needs costing likewise, present prices are so far out of line that most beekeepers are just existing.

Wishful thinking is of no help. Supply and demand still affect prices of all merchandise. If all beekeepers, whether they produce honey as a sideline or by the carlot, sold their product on its merits rather than on price, this would help. Price cutting may be the means of disposing of your honey, but selling honey at a loss does not show a profit. It takes courage to ask $1.50 to $2.00 for a 5-lb. pail of honey when it is being displayed on the counters for $1.19. It may

(Continued on page 507)

Wiring Frames

By Philip Bishop, Sackville, N. B.

For some time we tried to dispense with wiring frames when using reinforced foundation but have found that it did not pay. According to our experience, regardless of vertical support of the foundation, proper installation requires four horizontal wires in the frames to hold the finished comb from warping.

Probably many beekeepers have arrived at the same conclusion and wiring frames is still very widely practiced. But judging by the wiring equipment sold by the supply firms, there has been little done to improve wiring techniques in the past 30 years. It is also about that long since wiring methods have been discussed in the bee journals. Therefore, it may be time that the subject was reopened so that we can trade ideas and bring ourselves up to date.

We use an unusual procedure in wiring which Allen Latham taught me in the early 1920's. As far as I know, his technique has never had any publicity and yet it is extremely good. Mr. Latham did not thread the wire through the frame directly from the spool. Such a procedure involves pulling one end of the wire back and forth through all the holes in the end bars and is both awkward and hard on the fingers. Mr. Latham's procedure was to prepare, in advance, a bunch of wires, all cut to proper length (about 80 inches) and ready to use. Each wire is doubled into a loop and the two ends brought together so that the operator can work with both at once. The center holes of the end bar are the starting points. The center wires are threaded and both are drawn through at the same time. Next, one of the ends is threaded back through the bottom holes and the other end is threaded back through the top holes. Fastening and tightening the wires is accomplished in the usual manner.

The preparation of the wires in a convenient form may be accomplished in various ways. I will describe Mr. Latham's method which is both easy and satisfactory. Get a piece of board about six inches wide and long enough (about 40 inches) so that one complete turn of wire from end to end is just the right length to wire a frame. The purpose of this board is both to wind the wire off its spool in loops of proper length and to act as a holder for these loops of wire after they have been cut at one end and are ready for use. One end of the board should have a heavy groove cut in it so that snips can get under the wires for cutting.

In winding the wire on the board, have the spool mounted under tension so that it will take a little pull to get the wire to feed. Attach the wire from the spool to a nail driven into the winding board at the grooved end. Stand 10 feet to 15 feet from the spool when winding. This distance, combined with the tension on the spool, will stretch the wire so that it will not kink or tangle while threading the frame. When sufficient wire is wound, say 100 turns or more, sever it from the spool and fasten the end to the same nail as was used at the start of the winding. Next, take two heavy rubber bands and slip one over each end of the board, wires and all. The bands should be about six inches from each end and will serve to hold the wires in place after they have been cut. The cutting is now done at the grooved end, and the wires are ready for use. Each loop of wire is removed as needed by pulling endwise from the uncut end of the board.

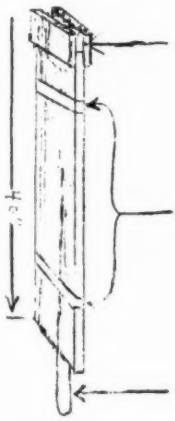
It is so seldom that one reads or hears about the detail of wiring frames that I may be wrong in thinking that there is anything unusual about the method I have described. Mr. Latham, in the course of his long life, has exerted a wide influence in beekeeping circles both through his writing and his personal contacts. It seems as if many must have learned of his method of wiring frames just as I did; but I have never seen a hint of it. His recently published volume, "Allen Latham's Bee Book," makes no mention of the matter so he may have considered it of little significance. It would be interesting to hear comments, as well as descriptions of other methods of wiring frames. I,

for one, consider it a mighty important little detail.

[Over 50 years ago we used this method of preparing embedding wire. It was developed by our Mr. R. G. Calvert, but whether he got it originally from Mr. Latham we do not know. It has many advantages over taking the wire from the spool direct to the frame.—Ed.]

Diagram of Wiring Method

Winding Board
Each complete turn makes a loop of wire of correct length to wire frame.

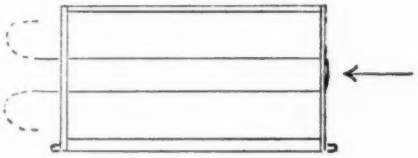


Groove which allows wire to be cut by snips.

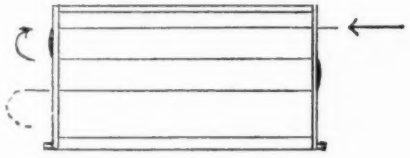
Rubber bands which hold wires in place after they have been cut.

Removing wire loops as they are needed for wiring.

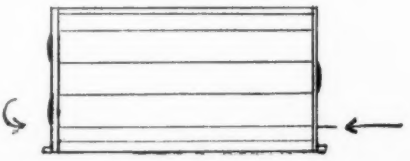
With both ends of wire loop begin wiring at center holes of frame.



Pull loop all the way through.



Thread bottom wire of frame and secure with tack.



Thread top wire of frame and hold end of wire with pliers while tightening. Secure with tack.

Fruity and Good

By Mrs. Benj. Nielsen
Aurora, Nebraska

Summer's enervating heat hangs on over dusty greens; heat waves shimmer over dry yellow wheat stubble—and it's too hot to eat, the cook thinks!

Along about this time of the season tho desserts are no problem at the Nielsen's, for we think there is nothing better than fresh fruits liberally dunked with nature's finest sweet, honey. Especially good are strawberries, either mashed or whole, and orchard-ripe homegrown sliced peaches. And did you know that you can prepare peaches beforehand, coat liberally with honey, and the slices will not turn brown?

Now in the cool of the morning whip up a luscious cake like the one in the illustration, mix a honey drink, and for good measure stir up a batch of honey lemon cream and have it on hand just in case someone does drop in. It will be all the better in flavor and texture for waiting for someone to drop in.

Honey Orange Sponge Cake

Four eggs, ½ cup sugar, ½ cup honey, 1 tablespoon grated orange rind (optional), ⅓ cup orange juice, 1½ cups sifted cake flour, 2 teaspoons baking powder, ¼ teaspoon salt, 1½ cups oven-popped rice cereal, ¼ cup chopped nutmeats, 2 tablespoons of honey, 2 tablespoons brown sugar, and 1 tablespoon butter.

Beat eggs until very thick and creamy. Gradually add sugar and honey, beating constantly. Add orange rind and juice. Sift together flour, salt, and baking powder; fold into first mixture. Pour into pan, and bake in moderate oven, 350 degrees F., about 35 minutes. Remove from pan at once. Crush oven-popped rice cereal into fine crumbs; mix with nutmeats, brown sugar and butter. Toast in oven until lightly browned. While cake is still hot brush with warm honey and sprinkle with crumb mixture.

Honey orange sponge cake with honey-sweetened fresh fruits. — Photo by Krums, Inc.

Honey Hawaiian Salad

One tablespoon gelatine, ¼ cup cold water, ¾ cup canned unsweetened pineapple juice, 1 cup dry ginger ale, 2 tablespoons honey, ½ cup orange segments, and 1 cup fresh raspberries.

Soften gelatine in cold water and dissolve over hot water. Add pineapple juice, ginger ale, and honey. Stir until dissolved. Cool. When mixture begins to thicken, fold in fruit. Turn into one large or individual molds that have been rinsed in cold water. Chill. When firm, unmold onto lettuce cups, watercress, or desired greens. Serve with mayonnaise.

Honey Lemon Cream

Two eggs, ½ cup honey, 1 cup milk, 1 cup light cream, ¼ cup lemon juice, 1 cup crushed and honey sweetened strawberries, and whole unsweetened strawberries for garnish.

Beat eggs until lemon colored; gradually add honey and continue beating. Combine milk, cream and lemon juice; add to egg and honey mixture. Freeze in tray of automatic refrigerator until just firm. Whip until light. Add strawberries. Continue freezing until firm, about 2½ to 3 hours. Garnish with whole berries. Serves 6.

Live and Learn

By Propolis Pete

Howdy folks. I haven't been away, just laying down on the job.

A couple of years ago, I wrote a page for Gleanings every month. But my work in the factory back in the city got heavier and heavier. I had to cut down somewhere eventually. Ordinarily when pleasure interfered with business I gave up business, but this time it was different. There was only one of me. So I had to quit.

About a year ago I decided that you can't take it with you, and Uncle down in Washington won't let you leave it behind either, so here I am again. I don't know whether or not the bees like it. They were perfectly happy going along as they pleased, being bothered only twice or three times a year, and now I am at them every week. Sometimes they seem to resent me.

Live and Learn — Brother, you can say that again. After all the years that I have been keeping bees, I should know a thing or two about them. The value of drawn combs for instance.

Last winter I decided to expand. So I ordered six packages. During the neglectful years my combs had been getting worse and worse. There were too many drone cells in nearly all of them. In fact, it was hard to find a really good comb. But I had 35 or 40 fairly good spares and decided that they would be fine for my new colonies.

Scraped the goo off some moth-eaten old frames and tidied them up real pretty. Put brand new wires in them, and some nice new foundation. Divided up the drawn combs and filled out the balance of the hives with foundation. The bees arrived and went to work in earnest. I was having a glorious time watching them build up.

Where does the Live and Learn come in? Right here. Here I sit in the middle of the biggest flow I have ever seen in all these years and my bees are drawing foundation. The season was and is about two weeks ahead of normal. What I should have done is to let the package bees draw out all their own combs. I never yet have been able to get a crop from a package in the first season anyway, so all I accomplished was to make my over-wintered colonies draw foundation too, instead of giving them empties for a refill.

When a good flow is on, bees draw foundation very fast, but not as fast as they can bring in the nectar. They seem to like to make comb, and it is not a bad idea to let them draw some from foundation every year. It keeps them happy, takes their mind off looking for a new apartment, and gives you a chance to get rid of the ones that they have chewed up in previous seasons. But not the way I did it. I'll bet I cheated myself out of a couple of hundred pounds of honey.

One thing that I learned from being with the bees all through the winter and spring is that the books are right when they say that the greatest danger from starvation is right after the season opens. I was astounded when I looked in the hives in April and saw how fast the stores went down. Believe you me, I got feeders on fast, and even though the cherries and apples put out a load of bloom, those feeders stayed right on the hives. In spite of the fact that theoretically they should get plenty of nectar from such flowers, they would take down a quart of sugar syrup overnight, some nights.

There is a whole lot more to it, but we are getting down near the bottom of the page. It's good to be back, but this won't be a regular monthly affair, at least for a while. Sometimes I run out of gas, and sometimes the deadline creeps up too fast. A month used to seem a long time 40 years or so back, but gosh, it seems as though I am tearing a new leaf off the calendar every other day. But when I have something to talk about, I'll be back.

* * * * *

Our Cover Page

The very fine close-up photograph by Ben M. Knutson, Alamosa, Calif., shows a bee in the heart of a dandelion gathering pollen. The pollen on the legs shows very plainly.

Second Glances

C.M. Isaacson

Nature's own method of selective breeding is quite plainly shown in Prof. Eckert's account of Hawaiian Island beekeeping and its revival under his observation. This is especially apparent in the development of a fairly definite resistance to AFB through the seemingly simple yet costly process (to us) of survival of the fit — which in this case happened to be those capable of resisting disease. It is not inconceivable that use of this strain, and others with like resistance, may go far towards removing the dread of AFB. Some of the other problems of Hawaiian beekeeping are quite peculiar to the Islands — the extremely quick granulation of kiawe honey for one — which also is a factor in causing the trouble with fermentation. All in all, this article is both of interest and profit to Gleanings readers (p. 393).

The technical explanations on heredity (from the second in the series of articles on bee breeding) may be beyond many of us, in parts especially, but the gist of it all is to give some comprehension of the problems and detail facing those doing this work. Inheritance cannot be reduced to a simple formula — or even an unvarying complicated one, due to mutations or variation. In the honey bee the possibilities for variation are so tremendous that the problems are very large — and the colony life factor further complicates the work (page 401).

In permanent apiary locations the cement hive may serve a definite purpose — especially where termites or ants are a problem (page 405). It would be simple to construct, cheap both in first cost and upkeep, and long lasting. They would not be practical in most commercial outfits, however, and would necessitate some changes in management even in a permanent yard. They might not be good for wintering in colder regions either.

Hedges can be a good source of honey as well as performing a valuable service in providing nesting places for insect destroying birds, says Franklin Wells (page 408). His account of his experience in producing honey from the privet is a good example. I might mention that all kinds of bees will work **Caragana,** another much used hedge plant, very heavily. There are a large number of blossoms on each plant here also if allowed to grow unclipped.

Permanent glass color standards should be a real aid in rapid determination of honey grades according to color. It should enable the beekeeper himself to get a pretty accurate idea of his honey, if the equipment does not prove to be too expensive (page 410).

Mrs. Nielsen's recipes can have an extra "taste thrill" with the use of that new crop honey here or soon to come (page 414). No, honey does not spoil, if properly ripened, but freshly extracted it does seem to have just a bit extra.

Even during discouraging periods we beekeepers need to keep "the platter right side up" as the Editor says (page 416). A real beekeeper is of necessity an optimist, and as such, should pile on the supers, just in case! Heavy flows can develop very rapidly.

During the boom days for honey several years ago it was hard for many to realize that we needed to prepare for leaner times — and support those agencies that were realizing this and putting the name of honey before the public. But one mistake never excuses another. Let's support the American Honey Institute and like organizations now — and miss no opportunity to "tell and sell" ourselves (page 417).

The growing use of chemicals in all farming operations does present a problem for the beekeeper — not only in actual loss of bees in many cases, but also in elimination of minor sources of pollen and nectar that aided greatly in colony build-up. It all may mean big changes in management and operation of apiaries — even abandonment of some localities. to the detriment of all (page **419).**

Get the food chamber FILLED for winter (page 428). The capitalization is mine, for I think this admonition in Editor Deyell's "Talks" is one of the most important of the season. It can well mean next year's crop.

Editorials

Year Book of Agriculture 1950 - '51

Gleanings is in receipt of "Crops in Peace and War", the Year Book of Agriculture for 1950-'51. The book is a voluminous one of 890 pages besides a useful glossary and a very complete and carefully prepared index. Complete information over a very wide list of crops of all kinds is given. The book is beautifully bound and something of real value to all interested in any phase of agriculture.

On pages 308 to 315 appears an article by George P. Walton, entitled "Sources and Values of Honey", which is the most complete and concise article on the subject we have ever read. This article alone is worth the price of the entire book.

The annual world production of honey, according to Mr. Walton, is now estimated at more than 800,000,000 pounds. The ten highest producers are United States, Russia, Germany, Spain, Canada, Australia, France, United Kingdom, Cuba, and Argentina.

A distinction is made between honeys classed as table honeys and those used for baking or other industrial uses. The industrial use of honey, especially, is treated fully.

As a reference book, "Crops in Peace and War", is more than a mere year book of agriculture, it is a valuable encyclopedia in any agricultural library. It is for sale by the Superintendent of Documents, Washington, 25, D. C. Price, $2.50.

* * * * *

Let the Bees Fill the Jars with Honey

Someone has said, jokingly, that the time may come when beekeepers will set empty 60-pound honey cans in the apiary and have them filled by the bees.

Perhaps that person did not realize how soon his prediction would come true. However, it is not 60-pound cans, but quart Mason jars that are now being filled with honey by the bees. See pages 474 and 475 of this issue.

Not long ago a beekeeper in Florida sent us a quart jar of honey in the comb that had been stored by the bees in the jar — together with other jars inverted and fitted into openings in a board and placed over a populous colony of bees. Apparently this can be and is being done.

Just think how handy it would be to have a hive of bees inside of the kitchen window with the hive entrance facing outside. When Dad asks Mom to bring on some honey, Mom simply reaches into the top compartment of the hive, unscrews a jar filled with delicious comb honey, and sets it on the table. Nothing could be simpler.

Well, this is something to think about. Perhaps we have made beekeeping too complicated.

* * * * *

Last Call to the International Beekeeping Congress

This Congress is to be held in Leamington Spa, England, Sept. 3 to 8. A conducted tour for beekeepers to England, Scotland, Belgium, Luxemburg, Switzerland, Italy, and France begins on September 8 and continues for four weeks, returning to New York City on October 11. Those not making the tour may return earlier.

The meeting offers an excellent opportunity to mingle with beekeepers from many countries and to visit places of interest.

The R.M.S. Queen Mary sails from New York on August 22 and an over-night plane leaves on August 26. Those interested in going should write W. A. Stephen, State College, Raleigh, North Carolina, who is chairman of the "On to Europe" Committee.

* * * * *

Bees May Have International Pitch

Some 12 years ago F. S. Brasor, Evanston, Illinois, a musician and a Gleanings subscriber at that time, claimed that honey bees during the height of a heavy honey flow produce the tone or pitch of A calling for 440 vibrations per second which is called International pitch.

Back in 1918 during a ten-day heavy honey flow in northern Michigan, during July, bees from 225 hives flew over our dwelling house all day long storing a good surplus from a large acreage of sumac. The "roar", as most beekeepers call it, was so plainly apparent that a number of people remarked about it. We have not investigated

this matter in our apiaries but hope to do so at the earliest opportunity.

At any rate, if an orchestra leader lost his pitch pipe or if all such pipes were lost, it should be possible to visit an apiary during a good honey flow in order to recover the A pitch.

Let us hope that the major honey flow this season may enable many of us to listen to that A pitch often, because it is music to the beekeeper's ear.

Regionalizing Beekeeping Territory Those of our readers who do have the 1934 volume of Gleanings will find the beginning of a series of articles entitled, "Beekeeping Regions," on page 90, of the February issue. On page 92 there is a small map of the United States showing nine beekeeping regions in this country, which include three rather restricted areas, the orange, buckwheat, and fireweed regions.

Roughly, the white clover and alsike regions comprise the northeast portion of the U. S.; the sweet clover region, the states in the Red River Valley; the alfalfa and sweet clover region, in the northwest, this side of Washington; and the southwest region comprising Texas, New Mexico, and Arizona. The South Pacific region takes in a part of California; the North Pacific Region, Oregon and Washington.

If those who give out beekeeping information had something definite concerning conditions that obtain in these various regions, we could in turn advise beekeepers more intelligently in various parts of the country who write in asking about the beekeeping possibilities in the respective regions.

Clover Pollination in Indiana From the January 1951 letter to the Indiana State Beekeepers' Association by Gilbert Perigo. Secretary-Treasurer, also State Apiarist for Indiana, we note an interesting item concerning red clover pollination during 1950.

On a farm near Indianapolis the clover seed average per acre had been about one bushel. The owner of the field of clover noticed that a neighbor kept a few colonies of bees near one end of the field. The end of the field near the bees yielded more seed than the opposite end.

The farmer secured some advice on pollination and was induced to put 103 colonies in a field of 70 acres of red clover during 1949. Even though weather conditions were not favorable for seed production, it was estimated that under favorable weather conditions this field would have yielded four bushels of seed per acre. With this heavy concentration of bees most of the blossoms were visited and very few bumblebees were seen in the field.

A number of farmers who watched the experiment were favorably impressed with the result and are now planning to have bees near their fields of clover in the future.

Ways to Lose Money on Bees In the June, 1951 issue of Cappers Farmer, appears an article, "Nine Ways to Lose Money on Chickens". This title changed to read "Bees" instead of "Chickens" might be used as an article for a bee journal.

It is obvious that when one invests in bees and beekeeping equipment, it is essential that maximum returns on the investment be realized. There may be a few beekeepers who are not interested in profits but keep bees mainly for pleasure and perhaps a little honey for table use. However, commercial beekeepers, as well as side-line beekeepers, should be interested in maximum returns which mean securing as much surplus honey as possible and selling it at a price that leaves a margin of profit.

If only beekeepers would discover and apply the principles which underlie success, more honey would be produced in this country. Quite often when a beekeeper is asked about the condition of his colonies, he will say, "I guess they are all right. I haven't looked at them for a couple of months."

Bees do not require the close attention each day that chickens, ducks, and other farm animals need because bees feed themselves, if honey is available. But it is very necessary that bees have enough to eat at all times of the year, that each colony is headed by a good, prolific queen, that ample comb space (which means supers) are put on in time to prevent congestion within the hive, and that the colo-

nies are free from disease. If the beekeeper applies intelligent apiary management he will probably secure a crop of honey if it is available. If he fails to manage his bees properly, he will lose money on his investment in bees.

The successful beekeeper knows the condition of his bees each week of the year and keeps one or two steps ahead of them in order to secure the maximum crop of honey. It is safe to say that tons, yes, carloads of honey are lost each year in the country because beekeepers fail to apply intelligent apiary management. With a little foresight in managing our bees we can easily step up the per-colony average production measurably.

Is Sweet Clover Coming Back? This question is vital to all beekeepers. Sweet clover—yellow and white—is considered one of the best, if not the best, honey plants in America.

Back in the early twenties when the prairie soils of the Red River Valley began to loose fertility because of heavy and continuous grain cropping, it was sweet clover that came to the rescue and restored lost soil fertility.

During the past decade sweet clover has faded out of the picture in most states where it once flourished.

We have it on good authority that sweet clover is staging a come-back — especially on roadsides, waste land and railroad embankments — where it is permitted to grow.

Whether or not sweet clover will be as prevalent and popular as it once was is a question. However, soil experts agree that sweet clover is the best legume for restoring and maintaining soil fertility. Furthermore the quality of honey from this legume is excellent.

Let's hope sweet clover may again be grown generally, not only to restore the soil fertility but also to make beekeeping more profitable.

Three Milk Honey Products Concentrated milk and honey products can now be manufactured by methods recently outlined in the technical journal "Food Technology." Appearing in the May 1951 issue is an article, "Manufacture of Concentrated Milk and Honey Products," by G. P. Walton, J. W. White, Jr., B. H. Webb, C. F. Hufnagel, and A. H. Stevens of the Agricultural Research Administration, United States Department of Agriculture. Walton, before his retirement in late 1949, and White are of the Eastern Regional Research Laboratory, Philadelphia, and Webb, Hufnagel, and Stevens are from the Dairy Products Research Laboratory, Bureau of Dairy Industry at Washington.

The article is the summation of several years of cooperative work between the two organizations which was carried out in part with Research and Marketing Funds.

The publication describes methods of manufacture of three milk-honey products, honey-sweetened condensed milk, honey-evaporated milk, and dried honey and milk mixtures. These products can all be manufactured with standard dairy equipment. Physical properties and stability in storage of the products are described in detail.

A typical honey-sweetened condensed milk as described contains 72 percent total solids, of which honey sugars comprise 40 percent. A series of honey-evaporated milks is described in which up to eight percent of the solids of the finished product are honey solids. It is suggested that these two products "which are made with whole milk, are considered especially useful in infant diets and in other special diets."

The dried honey-milk mixtures are described in detail. Two methods of manufacture are given, conventional spray drying and a mixing-tunnel drying process which does not require a spray drier. It was found that a dry, free-flowing hygroscopic powder could be made, containing up to 40 percent honey solids and 60 percent non-fat milk solids. Physical properties and composition of several dry honey-milks are included. Possible manufacturing uses for the dried honey-skim milk include commercial and retail baking, and as an ingredient in prepared dry mixes for baking, in fortified modified milk powders and concentrates, in cocoa, beverage, dessert and ice-cream mixes, and in confectionery.

XUM

From North, East, West, and South

SOUTHERN CALIFORNIA, July, 3

Weather: Again we have had delightful weather. There were only a few real warm days and no rain. All moisture reaching plants and shrubs is that furnished by man in the way of irrigation. Most of it is done through furrows. But a comparatively new system is being tried out. It is an overhead sprinkling type of irrigation and hundreds of acres are being wet that way. While it is quite expensive, it is a pretty sight to see the water coming down on the dry fields. Since the price of cattle has gone so high, more and more effort is being put forth to get pasture the year round. Quite often the permanent pastures are watered with the overhead sprinkling system.

Condition of Bees: Bees that have been moved to the alfalfa fields are in good shape. The beekeeper who is getting $6.00 or more for the use of his colonies for pollination purposes is sitting pretty. This calls for a lot of moving but is a rather new situation. To get paid for placing bees in a man's alfalfa field instead of paying for the privilege is certainly a unique idea to the beekeepers. It is the fellow who has his bees on a location in our sage districts and does not move who is in bad shape. He will likely get no honey and have to feed his bees.

Condition of Plants: The plants in Southern California that depend on the rainfall are out of luck. They are dry and in many cases look as if they were dead. But not so. A good soaking and the country would blossom like the rose. They say that we have had seven dry years with the rainfall below normal. We feel that we are due for a good old time wet season of 20 or more inches of rainfall. That would give the country a new look.

Honey Market: The market seems to be very quiet. A few producers have sold for as much as ten and one-half cents but buyers aren't anxious to buy. The unsettled condition of the country right now probably makes the buyers extra cautious.

Miscellaneous: Most of the bees have been moved to their summer locations from the orange districts. Most of these were left quite heavy to insure strong colonies for the alfalfa, cotton, or any other source from which nectar might come.

We heard a beekeeper say that there was practically no demand for bees and doubted if one could get over half the price that they would have brought six or seven years ago. Of course, the dry years have upset a lot of plans but a few years of normal or better rainfall would fix many of these irregular conditions.

Since our last letter we have made a trip to Hollister for a visit with our three little grandsons. It is about 400 miles away and gave us a chance to observe the country side. The absence of rain is very noticeable in most places. The fellow who has irrigation is fortunate. This trip took us through the great purple sage ranges where M. H. Mendleson operated for years and made his record crop of 100 tons of honey in one season on his location. —L. L. Andrews, Corona, Calif.

NORTHERN CALIFORNIA, July 1

Weather: No measurable rain fell in this area during June. Temperatures were variable but generally on the "comfortable" side. Northerly winds, which are our drying winds, blew on each of several days but this is nothing out of the ordinary.

Plant Conditions: Morning glory yielded well this year, producing its characteristically strong flavored, pungent honey. A little of it can ruin a good grade of table honey but it came in quite handy this year when colonies were getting low on honey. Then alfalfa and trefoil began to yield plentifully in favorable locations, so much so that colonies placed in alfalfa fields for pollination services began to plug up, a term well under-

stood by beekeepers who do not have enough supers on at the right time. This is one year in which alfalfa **may** produce in greater abundance than usual. The contributing factors are not known and may be cumulative and involving all environmental conditions affecting the plants as well as bee flight. A spell of cool weather slowed the nectar flow to a dribble but it has picked up again within the past few days. It will be interesting to see if a good honey year, for alfalfa, also means a poor seed year for that crop. The last few years of high seed yields have produced very little surplus in the bee-crowded seed areas. This might lead some seed growers to disbelieve the general statement that colonies usually do not produce a surplus of honey when they are concentrated to the extent of from three to six colonies per acre for seed production. This "unusual" yield this year has caused at least one seed grower who went into beekeeping for pollination purposes, many problems he had not foreseen. (Can any beekeeper imagine keeping several hundred colonies in two stories and without warehouse space or extracting equipment?)

Honey Marketing: This is the busy season for beekeepers and little is heard about sales of honey, except, of course, from those who produce early crops, as from citrus. Sales have been reported at from 10½ to 12 cents per pound, depending on the floral source and the quality. Some lots are still being held by beekeepers or groups of beekeepers for better than the support price. Honey is moving slowly at retail, as is usually the case in hot weather. Some excellent honey publicity has been published in local papers and its source has all of the earmarks of the American Honey Institute. It is too bad that the A. H.I. cannot be mentioned more often in these releases, but after all, the point is to sell honey and not the Institute to the buying public.

Some of the county and state fairs will be in full swing soon, some before this appears in print. Quality, eye-catching honey exhibits make good publicity and require a tremendous amount of work on the part of the exhibitors. More people should take an interest in such exhibits.

I wonder how many noticed that the four issues of the United States Standards for Grades of Extracted Honey were addressed to "Packers, Brokers, Distributors, and Consumers of Extracted Honey"? Where does the **producer** come in? After all, the producer is the one who will have much to do with maintaining the standards and grades of extracted honey. I am glad to report that those who wrote the instructions and directions admit that they inadvertently omitted mentioning **producer** in writing up the instructions. They did consult with producers and especially with the producers' committee of the Federation, even though the recommendations of that committee were not followed in many details. It has been suggested that the industry give the new standards a fair trial and change them as experience indicates.

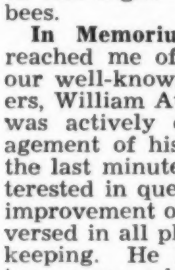
Pollination Problems: One cannot write of beekeeping in California without discussing pollination problems, if the entire field is to be covered. One of the main problems is that of chemical poisoning. Heavy pressure is being exerted for the use of certain highly toxic chemicals in the control of lygus, mites, and grasshoppers, on the grounds of scarcity of materials, and "cheapness" or cost of the chemicals. Some of the more toxic substances cost much less than toxaphene, for example, when used to control grasshoppers. If the more toxic materials are not used properly, they can be the most expensive even if they are given to the seed grower free of charge. The simple fact remains constant, that one cannot kill a majority of the pollinators without reducing the seed crop. Also, beekeepers cannot afford to have their bees killed or reduced in strength below the economic level. Proper timing of application, in relation to the blossoming period and bee activity, can reduce the damage to bees by a significant degree.

Another problem in providing bees for pollination is that of cooperation, both between the seed grower and the industry and also between beekeepers. One bright example of the desirable type of cooperation is working in southern California where some 30,000 colonies of bees are being provided under uniform contracts and with ser-

vices through one agent representing beekeeping interests. We take our hats off to Chas. Reed who seems to be the human shock absorber for the beekeeping and seed interests and who is doing an excellent job. He reports that some 3,000 colonies of bees were moved into one area in one night—and that is a lot of bees.

In Memorium: Word has just reached me of the death of one of our well-known California beekeepers, William Atchley, of Upland. He was actively engaged in the management of his apiaries right up to the last minute. He was keenly interested in queen rearing and in the improvement of strains and was well versed in all phases of practical beekeeping. He had a wide acquaintance among beekeepers in California, Texas and other states.—J. E. Eckert, University of California at Davis.

SASKATCHEWAN, June 26

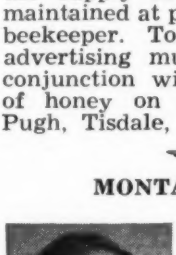


Weather: The weather in Saskatchewan during the spring has been cool and backward. However, there has been enough flying weather to enable bees to build up surprisingly well and the strength of bees at this time is quite up to average.

Prospects: The number of colonies on hand is perhaps slightly higher than last year and as there has been ample moisture in most parts of the province and good acreages of clover and alfalfa are being grown this year, prospects for a honey crop in this province are well up to average.

Miscellaneous: Although sales of honey have slowed up somewhat recently, they have been quite good all year and the seasonal peaks of sales that we used to have are levelling out very materially and a steadier month by month demand is developing. Beekeepers' own selling efforts which have been supplemented by the National Honey Advertising Campaign conducted by the Canadian Beekeepers' Council have done a big job in removing the surplus of honey which was over-hanging in the market for the last three years. If these efforts can be continued on an adequate scale there is no reason why the demand for honey in Canada cannot be kept above the supply so that prices can be maintained at profitable levels to the beekeeper. To insure this, however, advertising must be continued in conjunction with adequate grading of honey on all markets.—R. M. Pugh, Tisdale, Sask., Canada.

MONTANA, July 2



Weather: This year our spring was exceptionally poor. Several late frosts and some snow occurred in June. The bees were able to get out quite a bit during the dandelion honey flow, but since then the weather has been cool and windy most of the time. We are needing rain very badly here; however, some parts of the state have had ample rainfall. Thunder showers have been occurring regularly over the mountains, but have done nothing except make it cool enough so that the bees could not work in the afternoons. We have been able to do very little to the bees for the last two weeks because of this. There seems to be plenty of water for irrigation and most farmers have been forced to irrigate more than normal, but the atmosphere seems to be very dry and some dryland areas are suffering for lack of water. One good hard rain and then hot weather would put us right into the main honey flow.

Plants: Conditions for a better-than-average honey flow look ideal at the present time. Most farmers have planted considerably more alfalfa this year, and the haying operations are in full swing in spite of the poor weather. Several farmers around here are cutting their hay and putting it in silos green so that they do not have to wait for hot, dry weather. The indications are that we may not get much honey from the first cutting of alfalfa, but the yellow sweet clover is in full bloom along the roadsides and in waste areas. The white sweet clover is looking good and is just starting to bloom. The honey plants as a whole look better this spring than they have for several years. When-

ever the bees get a chance to get out and gather some honey it should be of the best quality.

Condition of Bees: Our bees are not in the best of shape to be starting the peak of the honey flow. The bees seem to have used up their stores of dandelion honey and some beekeepers have been forced to feed heavily in some areas. Some bees have not been fed enough and consequently have gotten on the downgrade instead of being at their peak to go into the main honey flow. If the weather conditions would become ideal right away, the bees would build up quickly and start storing honey in a short time.

Market: The outlook for selling honey seems to be very much the same as last year. Very few beekeepers around here have any honey left over from last year's crop. Our honey has been shipped out for several months as well as all our beeswax. Some grocers have been calling for new honey already. We had several calls for samples and carloads after all our honey was gone.

Miscellaneous: Ralph Schmiedeskamp, the State Bee Inspector, resigned from his job this spring and has gone into the honey industry on his own in the Billings area.

We have been informed of a large insecticide campaign which is going to be performed in ours and one of the adjoining counties. We were told that we may have to screen in some of our bees while the applications were being made. The applications are going to be made by airplane and I am afraid that some extremely disastrous results to the beekeeping industry may ensue.—Parson Pile, Corvallis, Montana.

WISCONSIN, July 6

The Weather: There was just too much weather during late June for honey production possibilities. The fields have not been as white with alsike, ladino, and white clover since 1928 - in the memory of some of our oldest beekeepers. It looked like a bumper crop year. But by this date, the honey in the hives does not measure up to expectation. Reason: too much cool, cloudy weather. About mid-June, when clovers began to blossom, many colonies were still small in population.

Package Bees: Complaints have been many from beekeepers that package bees failed due to queen losses from nosema. One beekeeper reports 8 out of 10 queens failing about two to three weeks after introduction. On microscopic examination, nosema infected attendants were found with queens in mailing cages. Other beekeepers report excellent packages and good results from them. There seems to be no way of knowing which queen breeder or package shipper has trouble from nosema and which one does not. Our own experience - we had excellent packages from a shipper this year whose bees were infected with nosema several years ago. Just the opposite was true with packages from another breeder and we lost about seven out of ten queens from these, though in past years we have had excellent results with his stock. Nosema is one of the unsolved problems that cause a great deal of loss to our beekeepers.

The Honey Market: The honey market dropped off during June. We service some large chain stores and each sold less than one case of 5 lb. jars per week. Small containers moved just slightly better. The stimulation of a new crop and a new interest in honey during the harvest season should improve the market.

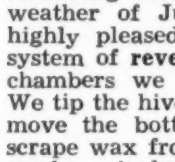
Honey Promotion: For many years we have heard moaning and gnashing of teeth about the price of honey or the poor market. We talk much about the food value of honey, but the consumer doesn't hear enough about it. The price of honey, as is the case with most other foods, is subject to these factors. 1. The size of the national crop. 2. The ability and willingness of the consumer to pay the price. 3. The price of competitive food products.

Honey is an old, old established food; however, it will not sell on its merits unless the three million young people coming into maturity each year can be told about it. Promotion must be a steady and continuous project. A sudden fare-up of advertising, costing thousands of dollars, will cost too much and do little towards building up steady

customers. **Let's look to the** American Honey Institute for a nationwide continuous program which we can afford to pay for.

Comments: There was much complaint from beekeepers about swarming during the cool, rainy weather of June. We have been highly pleased this year with our system of **reversing** the three brood chambers we use all year 'round. We tip the hive over on its back, remove the bottom board first, then scrape wax from the bottoms of the combs - including **queen cell-cups.** By reversing about every ten days we eliminated swarming completely and obtained quite a large amount of wax. Of course, we kept plenty of empty supers on each colony during the honey flow.—H. J. Rahmlow, Madison, Wisconsin.

ILLINOIS, July 5



Weather has been so unusual this spring that perhaps we should just call it normal. Rainfall in most parts of the state has been above normal. This morning while driving to the office one could see hundreds of acres of corn and soy beans still covered with water from the big storms of a week ago. Seven or eight inches of rain in three or four days on our flat Illinois prairie does not drain away very fast.

Temperatures have been below normal.

Honey Plants: If an estimate was made on plant conditions one could say they were at least 125% normal. From my home to Springfield it is 125 miles. The entire distance is fragrant with white dutch, ladino and sweet clover. There are but few sweet clover fields but considerable growth is found along the highway and railroad right-of-way.

Winter Loss: East Central Illinois had the heaviest winter loss in all history. Our own apiaries going into winter in the best possible condition, came through in the poorest condition in 35 years. We have tried to keep our colonies below the 350 mark for the past few years. Last fall we had 337 excellent colonies, all in double brood chambers. Of this number 170 were packed in our two-colony cases, the rest were wrapped in tar paper. The packed colonies wintered excellent, the loss was only 15 colonies. The loss in the wrapped colonies was 112, approximately 40 of these were destroyed by flood waters. One apiary of 60 colonies had water to a depth of 20 inches in late February. Other beekeepers in the area had about the same amount of loss. It appeared as though a honey crop was a long way off.

Crop Prospects: Yesterday on the 4th of July it was a pleasure to look at five to seven comb honey supers piled high upon colonies that looked so poorly a few weeks ago. The honey flow in the eastern part of the state is the best since 1927, the quality of the honey the finest since 1936. White Dutch clover has and is yielding its best in several years.

Markets: The demand for section comb and chunk comb is good. Although our interest is in comb honey we move all the liquid that we can.

Our State Fair: This year our State Fair will select their "State Fair Queen", and we beekeepers will also adopt her as our Illinois Honey Queen. To keep her sweet throughout the coming year we are to present her with her weight in choice Illinois honey. The honey will be on display along with her photo and weight.—Carl E. Killion, Paris, Illinois.

OHIO, June 30

Weather: We have had some excellent weather for short periods of time. Over the entire state it is truly remarkable the variation in weather conditions. Some sections would be dry and hot while others would be wet and cool. Certain districts needed rain while others had a surplus. There have been quite a number of bad storms which could, perhaps, be termed miniature hurricanes. Thus far into the season the relative humidity has not exceeded 67 to 70% and this makes working conditions and living conditions much more comfortable.

Plant Conditions: Insofar as I have been able to learn, plant conditions are exceptionally good all over the state. The northwestern section is outstanding with the central and northern section a very close second. There are sections right here in central Ohio where little Dutch white clover "browned out" but recent good rains have revived it and it is possible it will produce more nectar at a later date.

Heavy rains have somewhat delayed the cutting of alsike clover and the beekeepers will profit materially thereby. There are a few small fields of white sweet clover along with a good quantity of volunteer growth. This is a most welcome sight to beekeepers at this season of the year.

Bees: The bees in Ohio wintered much better than was predicted. The percentage of loss was mostly due to and in accordance with the type of beekeeper who owned them. Hence, the real beekeeper was out in his yards as spring was approaching to see if food might be needed. Many of them did need it and they were supplied right then and there. This attention at the right time saved hundreds of colonies. Early replacement of queens for queenless colonies saved many more.

Next in line we have the dilatory, careless, procrastinating, and sloppy beekeeper who seems to think that his bees are superior to all others and can and will survive without his care or attention. The ultimate result is he has lost many by starvation, queenlessness, and foul brood. Then the foul brood spreads to neighboring colonies, if the county inspector does not catch it in time. This is quite serious in a locality where an unfortunate situation of this nature exists—and it does exist in Ohio. May I ask, Is there a remedy?

Good beekeepers at this time have their colonies in top condition and are getting a fair crop while the procrastinating beekeeper is wondering why he is not. When it is all in the cans we hope that we may all be able to boast of the best crop in many years.

Miscellaneous: A number of new and better methods are being worked out relative to pollination of orchards and to legume seed pollination. Where bees are rented out for pollination purposes the number of frames of brood within each colony will enter into the price paid per colony. Of course, we all are aware of the fact that the closer bees are placed to the area to be pollinated will materially increase the percentage of pollination.

More and more, color will be one of the factors that will enter into a ready sale for your honey. Get your clover honey extracted before it gets mixed with some darker or off-flavor honey and the price will be better.

Ladino clover is being grown extensively in Ohio. I have not been able to secure much information as to the amount of nectar and pollen it will produce. The bees seem to work it diligently in the late summer and, perhaps, make a living from it. It may "hit" and produce a surplus some years or in certain localities.

Sweet clover weevil and spittlebug are with us this year in abundance. Insecticides are being used for the latter with good results to both farmer and beekeeper.

As this comes to a close so does another June. Each day will be a tiny bit shorter and the lush green will begin to show a tint of tan. Soon the summer will be over and beekeepers will be getting bees in condition for another year. Keep in mind this fact—"It always takes less time to do a thing right than to explain why you did it wrong."

We are all looking forward to the summer meeting August 7th and 8th at Medina where we always have and always will be received with welcome by The A. I. Root Company.—W. A. Coulter, Columbus, O.

SOUTHERN ALABAMA, July 9

Weather: April was a dry month. In many places farmers didn't get their crops planted before it was too dry to germinate seed. May and June were dry with rain the latter part of June. For nine weeks, and in the northeast part of the county for eleven weeks, we had no rain at all. Just when it looked as if most annuals would die

the rain came and plants revived almost like magic.

Honey and Bees: Bees built up rapidly this spring and put away some surplus from mixed flowers before the main flow came on, which I would say was below average. As some surplus was in the supers before the main flow, we have some mixed honey of a very agreeable taste but of such heavy body that it is almost impossible to extract. It's quite likely that the heavy body may be because of the drought and heat.

At this time bees are gathering from summer Titi but this flow will soon be over.

Prices are below what they were at this time last year. In the Alabama Farmers' Bulletin, prices range from $1.75 to $2.50 per 10-lb. pail, postpaid in the state. The $2.50 honey is clover honey. Tupelo honey is not listed in the late bulletins.

Miscellaneous: Time will tell what the new stock law will do for the bee industry here. It will no doubt bring on clover fields and pastures which up until a few years ago were hardly known here. Little has been said about the new law which was brought in by the Department of Safety, and will go into effect January 1.

It will do away with the old law which was a county optional law. Washington County still has cattle at large. Most of the argument against it was the fact that such counties as Washington have about 90 percent open land.

Our open range never was too good and it appears to me that this range has been dwindling, timber and much underbrush having taken the place of grass.—Henry G. Miller, Vinegar Bend, Alabama.

ONTARIO, July 7

An old gentleman who always saw only the bright side of life once said. "There is no such thing as bad weather. Just different kinds of good weather." Probably that is the proper view to take, as everything usually turns out all right in the long run. But it must be confessed that weather gives the beekeeper some worry, perhaps unnecessarily, most of the year. The weather summary for June, just to hand, indicates that temperatures for that month were sub-normal with precipitation above normal. The first few days of July have also been very cool with heavy rains. Yesterday, July 6th, a steady downpour all day left just over two inches of water in a honey tin set out in the open for the purpose of measuring it. This morning rain is again falling steadily, and ditches and water courses are running full. Moisture conditions should be satisfactory for the remainder of the month.

As was to be expected growth of all vegetation has been particularly heavy. Hay and grain crops, as well as fruits and vegetables are flourishing. As a matter of record the Ontario Minister of Agriculture, Col. T. L. Kennedy, forecasts the greatest yields in Ontario's history. Honey flora is particularly abundant throughout the province. Alsike and sweet clover are growing everywhere, on roadsides, and waste land, and abandoned farms. One area in particular, where I cannot recall ever having seen sweet clover growing, is almost a solid mass of white sweet clover in full bloom. Also alsike and sweet clover, both white and yellow, are putting in an occasional appearance in the farm rotation this year for the first time in a decade. This voluntary appearance of sweet clover where none has grown in many years is somewhat mystifying and suggests that these seeds have remarkable vitality, and will lie dormant over long periods until favorable conditions bring about germination. However, from the beekeepers' point of view that is all to the good.

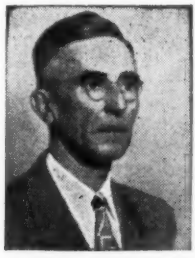
Spotty wintering left many colonies of bees weak, and beekeepers reported that although feeding was resorted to, the colonies did not respond satisfactorily. However, in early June they commenced to surge ahead, and were strong in bees when the honey flow commenced. In the extreme southern areas of the Province beekeepers report 100 pounds of honey stored at this date. Locally, many have one super well filled, and with good weather following the present wet spell, nectar flow should be heavy. The honey

is water white, and heavy bodied, and should be in brisk demand. The quality offered the public during the past two or three years has not been such as to create undue pride on the part of the producers.

As far as I have been able to ascertain stocks of 1950 honey in the province are negligible. Inquiries from stores and individual customers show that to be the case. The tourist season is at its peak now, and cottagers and campers buy considerable quantities. Some beekeepers dispose of their entire crops at roadside stands, with no packing and marketing costs. Beeswax prices are the highest in my memory, with buyers circularizing beekeepers in an effort to obtain supplies.

Beekeeping has tended toward cycles in the past or what might be termed peaks and depressions. Two world wars created peaks, when many rushed into the business, only to drop out when the tough periods set in. At present it looks as though mounting interest in legume-seed production with the use of bees as pollinating agents may signify the commencement of another peak period. Only in this case the diversion of colonies for pollination may restrict the overall volume of honey produced and tend to create steadier marketing conditions. However, that is all in the realm of conjecture and we can only wait and see what turn future events may take.—Allan T. Brown, Peterborough, Ontario.

TEXAS, July 9



Weather: The weather throughout Texas continues hot and dry. During early June heavy rains fell over many sections of the State, however, with the hot weather and dry winds prevailing since, soil moisture has disappeared. Drought still persists over much of both East and West Texas. In this immediate section during the last 13 consecutive months, 12 were considerably below normal in rainfall.

Bees, Plants, and Honey Crop: Most of the spring honey crop has been removed from the hives. The crop of mesquite honey over a large section was the best in some years. Good yields were obtained also from Madrid sweet clover in the black land area with average yields up to 42 pounds. Vetch varied greatly in yield with averages up to 35 pounds reported from Northeast Texas and a failure in other areas. At present there is still a fair bloom of Hubam clover. Some localities apparently are getting a fair crop from this clover, but in general the total yield from Hubam will be short because of reduction in acreage and weather factors. Most upland locations in this immediate area have fared rather poorly with a complete dearth of honey during June resulting in cessation of brood-rearing and approaching starvation of many colonies. In river valleys there was a good bloom of peppervine followed by ear-drop vine. Beekeepers who took advantage by moving their yards to the bottom lands not only saved their colonies from starvation, but now have a fair crop of surplus honey on the hives. In the Lower Rio Grande Valley, resident beekeepers report a fair surplus from cotton. At this time cotton is in full bloom over most of Texas, however in the black land area and in river valleys the flow from cotton has been rather light. From present indications the current year's honey crop for Texas is expected to be below average.

Market: A considerable portion of the new honey crop has moved from producers to bottlers. Government support price prevails on extracted, while comb delivered in supers to packers is bringing 18c. Retail prices are about the same as last year to slightly higher, with comb about 4c above that of last year. Movement in the retail trade is rather sluggish at this time.

Miscellaneous: Throughout the Brazos River Valley a good many thousand acres are grown to alfalfa. This acreage if permitted to bloom and seed would provide valuable bee pasture and a good crop of seed. However, farmers find the crop more profitable if marketed as alfalfa hay and meal. Most communities have local dryers where the green forage is dried and either bailed or ground. This feed stuff is in great demand at a high price.

According to government statistics

(Continued on page 510)

Asked & Answered

Ants Between Outer and Inner Covers

Question: How can I keep ants from living between the outer and inner covers? —Earl L. Fielders, N. H.

Answer: It is not uncommon to find ants between the inner and outer covers of the hives. One way to get rid of them is to remove the wooden block that covers the hole in the middle of the inner cover. This will permit the bees to get up into the space between the two covers and drive the ants out of the hives. We assume, of course, that you have populous colonies of bees. If you have they will drive the ants out. If your colonies are weak or of mediocre strength they may not be able to drive the ants out. Another way is to turn the inner covers upside down for a short time.

Sulfathiazole Does Not Control EFB

Question: Is there anything better than sulfathiazole for making a sirup treatment for the cleaning of European foul brood disease?—H. O. Swartz, Mich.

Answer: Sulfathiazole does not control European foulbrood but it does inhibit the progress of American foulbrood. While sulfathiazole may inhibit or delay the progress of American foulbrood, it does not destroy the organism, bacillus larva, that causes this disease. It would appear that more scientific experimental work should be done with sulfathiazole to determine just how efficient it is in the control of American foulbrood.

Fastening Foundation into Shallow Frames

Question: I am keeping seven hives of bees as a hobby and have difficulty fastening wax in shallow frames. I fastened with small nails driven straight through the wedge into the frame through the wax, but some would fall out after being put in the hive. This usually messed up another and sometime two frames. What didn't fall out would be twisted causing the bees to build uneven combs making it hard to remove from the super without breaking the cappings or tearing the comb. I purchased a wax tube fastener. This has eliminated the comb falling out but the comb still twists. I wonder if in nailing this comb I put too much pressure on the comb where the nails are causing this twisting.—Robert Johnston, Georgia.

Answer: In producing chunk honey in shallow frame supers, it is customary to use thin super foundation and to fasten each sheet in its top bar, either by means of a wax tube fastener or in the event that a thick top bar with wedge is used instead of a thin top bar with a groove, the foundation is inserted into the opening beside the wedge, then the wedge is pushed over tightly and nailed with at least three small nails. It is necessary that the hive to be set quite level so that the full sheets of foundation hang down straight. When the weather is hot, these full sheets when being put into frames have to be handled quite carefully as you have doubtless found out from experience. There is usually a small space between the bottom part of the full sheet and the bottom bar, after the sheet is put into the frame.

Wax Production Rather than Honey

Question: Is it possible to produce more wax than at present by special hive manipulation?—James U. Tamplin, Guatemala.

Answer: Concerning the production of beeswax only, with no emphasis on honey production, I have some theories as to how I would go about it but have had little actual experience. As beeswax brings a good price in this country at the present time, during the past five or six years I have tried to increase wax production and I believe I have attained some success along this line. I do two things. First, I space combs in the extracting supers eight or nine to each 10-frame super, preferably eight. This means that these combs are drawn out further than if spaced 10 to a super because less space is taken up in the hive with midribs or septums of combs and consequently more space is devoted to storage of honey and wax secretion by the bees, to build cells to hold the extra amount of honey. My second method consists of having each extracting super equipped with five wired drawn combs and four empty frames from which combs have been cut. I find that during a good honey flow bees will construct cells in these empty frames. By the way, these will be drone cells, or comb. The bees will fill this drone comb and the combs will be straight because the bees are forced to build them straight be-

cause of the fact that there are straight drawn combs on either side. I find that it is possible to haul supers containing these unwired combs to the apiary house, uncap them, and extract honey from them without breaking the combs. Of course, they must be handled carefully. After the honey is extracted from these unwired combs they can be cut out of the frames and rendered into wax in order to increase wax production.

I have another method in mind which I would like to try some time for producing a maximum amount of wax. This would consist of using only one inch starters in frames of the extracting supers, permitting the bees to construct combs in criss-cross fashion, which they would probably do; then, after the supers are filled, cut the combs out of the frames into a 45-frame radial extractor with a screen at the bottom and the sides of the reel. Chop the combs up in order to release most of the honey, then set the reel in motion so the honey is thrown out of the mass of combs. It might be possible to make a device or gadget with a number of blades set closely together for chopping up the combs in the extractor before the reel is set in motion. The remaining dried combs would then be rendered into wax. The honey, if not suitable for table use, could be used as bee food, especially during a dearth of nectar, to encourage the bees to secrete wax and build more combs.

As I understand it, some experiments have been conducted along the line of feeding sugar syrup in order to have the bees secrete wax and build combs. If I am not mistaken, the method was abandoned because the cost of the sugar plus the labor involved in feeding was not warranted from the standpoint of results attained in wax production.—M. J. Deyell.

Visitors from Israel

In the August number of Gleanings for 1946, we referred to a visit from Benjamin Gorstein, Chief Agricultural Engineer of "Yakhin-Hakal", Tel-Aviv, Israel.

Mr. Gorstein has again come to this country, this time accompanied by Mrs. Gorstein, on a tour of investigation of citrus and other fruit orchards and of agricultural methods in general. While his native language is Hebrew Mr. Gorstein is an eager student of English, for he keeps in close touch with all agricultural books, bulletins, and magazines published in the English language.

The native bees of Palestine are dark, much like the Egyptian bees. The Gorsteins find the Italian bees far superior. Mrs. Gorstein, also a scientist, is to be in charge of Italian queen breeding. They are both much interested in the work done in this country on artificial insemination and have purchased an outfit which they will take back with them. Mrs. Gorstein has a number of colonies on the roof of their home, and also bees in several out-apiaries.

The present population of Israel is about a million and a half. There are about 30,000 colonies of bees. Israel is not much more than 40 to 60 miles wide, east and west, but of course much longer north and south.

Mr. and Mrs. Benjamin Gorstein, Tel-Aviv, Israel, on the occasion of their visit to Medina on June 15, 1951. Standing with them is Mr. C. G. Tollafield.

A Talk to Beginners

M. J. Deyell

M. J. Deyell

A Look Ahead

Those who intend to remain in beekeeping, and most beekeepers are in this category, must take a look ahead, at least once in a while. If we do not lay plans for the future and profit by our mistakes in the past, we are not likely to make much progress. We must not stand still. A bicycle rider who attempts to stand still will fall off, and that is the way it is with beekeeping.

Throughout the country some beekeepers secure a good crop of honey, others get fairly good crops, and still others get no surplus. Those beekeepers who remain in one place are apt to secure a crop at least once in a while. Those who move bees around the country to take advantage of crops, may or may not secure a surplus. I recall some years ago of moving a good sized apiary to what I thought was a good location. The bees stored a small surplus but no larger than they would have secured had I not moved them.

How Often Should Hives be Examined

This is a moot question, especially with beginner beekeepers. There is, of course, danger of examining colonies too often. Some one has said that a beginner beekeeper should have one hive of bees to play with, then let the other hives alone, unless it is necessary to open them for examination.

Some years ago, when I managed the Root Company apiaries of about 1200 colonies, I had a gang of three or four men that I sent around to the various apiaries, 20 in all. We tried to see each brood chamber at least every week or ten days, and to put on more supers, if needed. In those days, when putting on supers, we removed the filled and partly filled supers temporarily, in order to put the new super on the bottom of the pile, directly above the queen excluder. This meant an enormous amount of work, especially heavy lifting. Later on, we discovered that all this extra work was unnecessary and that bees, if given supers in ample time, would go up to fill supers put on the top of the pile.

But to get back to the matter of examining colonies rather frequently. I am now of the opinion that we did the right thing, especially during the honey flow, because we detected disease that might occur among the colonies, and removed inferior queens and replaced them with good, young laying queens. Then, of course, we supplied more comb space, when needed.

The tendency at present is to put on a number of supers at one time, at the beginning of the season, then let the colonies alone, unless they are in need of more supers. Of course, this plan does save considerable labor but at the same time it must be remembered that a lot of things can happen within the hives, that the owner of the bees does not know about unless he examines the brood chambers reasonably often. I think there is a happy medium somewhere along the line that we can follow of manipulating colonies of bees.

August, the Beekeeper's New Year

This is becoming a common phrase but it has a real significance. If we plan to carry our colonies through the winter, we must begin at this time to so manage them that they will be in the pink of condition to go into winter quarters.

Requeening

Some years ago I thought that every colony should be requeened in August, preferably the fore part of the month. In those days we removed all queens from colonies, regardless of their quality or age, and

introduced young laying queens. This practice may have some advantages. Colonies headed with young queens should be in good condition for winter, that is, the queens introduced in August should have ample time to produce large populations of bees to go into winter quarters, and it is the colonies with young vigorous bees that winter well, whereas, colonies that do not have an abundance of young bees to go into winter, may not survive it in good condition.

It now seems to be the consensus that some queens may do better work during their second year. If this is true, we would be foolish to remove good year-old queens each August, introducing other queens perhaps of doubtful quality.

Just today I talked with a beekeeper from northern Michigan, who told me that he has a colony with a queen almost four years old. I asked him how he knew her age, and he said her wing was clipped and that, of course, is a good way to tell the age of a queen. He said, however, that the queen is now failing and he is replacing her. In talking the matter over with this beekeeper we both agreed that it would be worthwhile to breed from this queen in order to produce a strain of bees with the characteristic of longevity. Possibly the progeny of such a queen would live a little longer than ordinary worker bees and consequently store more surplus honey.

The late Dr. C. C. Miller practiced selective breeding from his best producing queens and in this way he built up a strain of bees superior in honey gathering, especially for the production of section comb honey.

It does seem that quite a number of queens we purchase and introduce these days "fizzle" out in a relatively short time. It is disgusting to introduce a nice looking queen in the fall or early spring and then have her superseded just before the main honey flow begins.

Remove Poor Combs

Every time I check my four apiaries I run on to some combs in the brood chambers that I would not want you readers to see. I wonder if some of you would like me to see some of the poor combs in your brood chambers.

When a poor comb is found, and by that is meant a comb with

An ideal apiary location, hives facing South, near a pond of water, with ample wind protection from the North and West.

patches of stretched or drone cells, it is so easy to put this comb at the outside of the brood chamber and leave it there instead of removing it and replacing it with a good comb consisting mainly of worker cells. In some instances, a good queen is not able to do her best work because she does not have ample comb space for producing worker bees.

Theoretically, it should be possible to maintain a brood chamber with practically 100% worker cell combs. However, it has been my experience, at least, that bees will construct drone cells in portions of the comb, especially at the bottoms of the combs, and in some instances, they will change the mid-rib or septum of the comb from worker to drone cells. One authority has said that eventually approximately 10% of the comb space in a brood chamber will consist of drone cells.

It was the late Mel Pritchard who said that in his opinion it would pay beekeepers to have at least one drone comb in each brood chamber so that the queen could concentrate her laying of unfertile or drone eggs to this comb instead of laying in small patches of drone cells constructed by the bees throughout all of the combs.

Perhaps this is worth considering. Drones are essential for the perpetuity of races of bees. It is folly, however, to permit too many drones in a hive. Some beekeepers, not many, use half sheets of foundation instead of full sheets. Obviously, the bees will construct drone cells in the bottom half of the combs. I once knew a beekeeper in northern Michigan who did this and when I visited his yard during a honey flow, I could hear the roar of drones in the yard. This abundance of drones resulted in the consumption of a considerable amount of honey.

And so, the month of August is a good time to remove inferior combs from the brood chamber and replace these with good combs.

Getting Food Chambers Well Filled

It hardly seems necessary, after what I said in the July talk, to mention again the advisability of having food chambers well filled when fall comes. In regions where there is a good fall flow, food chambers will probably be well filled and in areas where there is little if any fall honey, it may be necessary to feed sugar syrup late in the fall to supplement any deficiency in natural stores.

Get White Honey Off Before Buckwheat Honey Comes

In most of the buckwheat regions, this flow occurs some time during August. In some parts of the country where white sweet clover is prevalent, it may be somewhat of a problem to get the white honey off before the buckwheat flow begins. This problem confronted the beekeepers in Ontario some few years ago when white sweet clover was prevalent there. A considerable amount of buckwheat honey is grown in parts of Ontario. The white sweet clover, also alfalfa, would continue to secrete nectar during July and into early August. In order to get the white honey off, before the buckwheat flow began, it was sometimes necessary to remove the honey before it was properly ripened. This resulted in the white honey fermenting unless the supers would be aerated, that is, piled up criss-cross in a hot room and air circulated through the room by means of an electric fan. This procedure did remove some of the excess moisture from the supers of honey.

In localities where alsike and white Dutch clover constitute the major honey flow, there is ample time to get this surplus honey off the hive before the buckwheat flow begins.

Bees, Creatures of Habit

Almost a month ago, I plugged up a small opening in one of the strong colonies of bees just west of the Gleanings office. This hole was in a shallow super above the double brood chamber. I plugged up this hole with a chunk of burr comb. The bees that had used this upper entrance continued to fly to the spot where the hole had been. They would run down in front of the hive into the main entrance. It took the bees three weeks to learn where the other entrance was and to use it.

In the past, I have observed bees that had gained entrance to a honey house through some small opening that should not have been there, continue to try to get in the entrance after it had been closed.

A handy truck for out-apiary work used at The A. I. Root Company's apiaries for hauling hives of bees and supers. Note the tool box back of the running board.

Piles of Supers at Yards

When piling supers at the side of a yard, to be used when needed, it appears to be an advantage to leave a small opening in one of the supers, because any swarm that may issue is apt to take possession of the pile of supers. A few days ago I found the second swarm this season in such a pile of supers.

It is also an advantage to have a few empty hives, or, rather, hives containing drawn combs, at the side of the apiary, ready to use in case a swarm is found. I try to keep the entrance reduced to small dimensions to exclude mice. Occasionally, a swarm that issues will take possession of this hive, and that is exactly what I want the swarm to do.

Wax Moth Makes Trouble

One must be careful during the summer months to avoid leaving piles of supers containing drawn combs for any length of time. The bee moth is likely to get started in the supers. It is astonishing how quickly moths can destroy a pile of supers when they once get started. One may see a small web across the combs and in a relatively short time, there will be wax worms destroying the mid-ribs of the combs. It is a good plan after warm weather comes, to get supers containing drawn combs into use. Here in the North, such supers can be kept free from the wax moth by placing one or two on top of an inner cover, over a normal colony of bees, with the center hole in the inner cover left open so that the bees may circulate up through the drawn combs. Of course, the outer cover is placed on top.

Drawn combs that are left in an apiary house, should be treated periodically with carbon-disulphide to keep the moths out.

Two-queen Hive

Some time ago, I mentioned having a two-queen hive near the Gleanings office. This hive seemed to do quite well last year but the colonies died during the winter. The two colonies nearby in single-queen hives came through the winter in good shape. We hope to restock this two-queen hive with bees in the future in order to compare it with the single-queen colonies near by. The past few seasons have been so poor in this vicinity that we could not carry out the experiment satisfactorily. The scale hive has gained over 75 lbs. thus far this season.

American Honey Institute News Notes

By Harriett M. Grace, Director
Commercial State Bank Building
Madison 3, Wisconsin

The old and proved slogan "Be wise, Simonize" could well be changed to "Be wise, Advertise."

For wise it is to ballyhoo your honey a little. The public is deaf to those products which do not shout loud enough to be heard above the din of competition. Honey must sing its own praises, for no one else will sing them for her. And the best way to do this is the way all other products do it — by advertising.

Contrary to a popular belief, **advertising does not have to be an expensive proposition.** Too often we judge an advertising campaign by the huge programs carried on by large corporations that can draw on a reserve of money especially set up for advertising purposes. We can not imitate such a program. The expense is too enormous. But we can learn by studying such advertising schemes. And we can adapt what we learn to honey advertising.

First of all, we find that large concerns stress brand names. They decide on a name that they think is unusual and appealing. Then they focus all their advertising on that name. Honey producers can do this same thing. The golden goodness of honey should sharpen your imagination. Let the brand name you pick out reflect this imagination.

Second, it is obvious that heavy advertisers stress the same slogan over and over again. They pick out an idea, then drill it into their advertising. Examples: "A Treat instead of a Treatment" used so effectively by Old Gold Cigarettes; "Have a Coke" used by Coca Cola.

Honey producers can do the same. Many ideas for such slogans can be found in the Institute's honey recipe books which condense all of honey's good traits into a small space. Perhaps you want to stress honey's golden color, perhaps its natural sweetness, perhaps its versatility. At any rate don't forget to pick out a characteristic that makes honey different from other sweets.

Third, big-time advertisers point out how their particular brand is better than any other brand. This is most important. No beekeeper wants to advertise honey only to find that he is also paying the advertising bills for all honey producers in his area. Instead, advertise your brand name in combination with what makes your brand more outstanding than any other brand. Perhaps you are smart enough to pay attention to the small but all-important detail of clean packaging coupled with a colorful, uncluttered label. Then you will want to call the consumer's attention to this fact.

Point out how your brand is different, better, than any other brand. In this game of advertising no one can afford to be bashful. The fruits of good sales go to the man who toots his own horn.

Fourth, those products that are blessed with the backing of a large advertising campaign are characterized by ads that stick to one format, i.e. the layout is the same, time in and time out. The reason for this is simple; this sameness of layout builds up a public association of that layout with your product, so that when that ad is seen, just a glance will tell the reader what product is being advertised. This does away with the risk that the ad won't be read. It doesn't have to be read. One glance is sufficient to print your brand name on the consumer's memory.

Because honey is produced by so many individual beekeepers who seek to sell their honey through their own efforts, a large national advertising campaign is quite difficult. But each of these individual beekeepers will find that a small scale advertising program of his own will suit his needs well. His aim is to create a demand in his own locality. Thus he should place his ads in those media that cover his own community.

The cost of advertising in a hometown newspaper is surprisingly low. Call up the advertising manager of your paper and ask him to send you a list of his rates. Discuss with him the best time to insert your ads, the best page in the paper, the best layout for a foodstuff. He'll be glad

From a Swiss Magazine

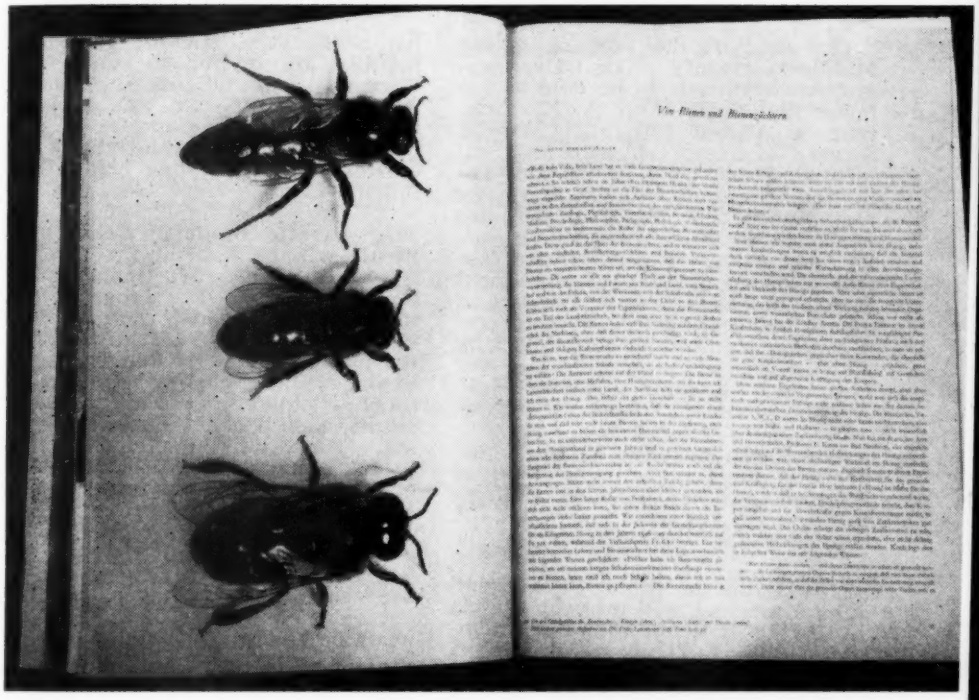


Photo by Dr. Fritz Leuenberger

The April 1951 issue of "Du" (you) the Swiss monthly (Rayelle Foreign Publications, 5700 Oxford St., Philadelphia 31, Pa.) is almost wholly devoted to bees, their dances, to different types of bees other than honey bees and to ants. Some of the most beautiful illustrations to be found anywhere adorn its pages. One of the best is that of the queen, worker, and drone on page 30, reproduced above.

The Swiss manufacturers of optical supplies and cameras show by these pictures that they use the same meticulous care in using their cameras that they do in constructing them.

to cooperate with you. And once you've seen the results you get from such advertising, you'll be glad to cooperate with him!

If you desire to sell honey via carload lots, ads in the bee journals bring excellent results.

A very successful advertising campaign has been carried on by the American Honey Institute for several years. This campaign has been confined to professional publications, i.e., those that are written for doctors, nurses, dietitians, home economists. The original idea of advertising in these magazines was that these professional people would have it in their power to influence the eating habits of others. It has worked out exactly that way. Doctors can recommend honey to their patients. Dietitians can include it in their menus. Home economists can use it in their cooking. Thus honey gains a prominence it might never have had otherwise.

Yes, advertising is wise, and profitable. You will do well to plan your program now.

Just News

Our next regular meeting of the **Middlesex County (Mass.) Beekeepers' Association** is to be held at the home and apiaries of A. K. Tinkham on August 25th at 11 Poplar Street, Belmont, Mass., and all members and local beekeepers are invited to attend and see the many new things that Mr. Tinkham has perfected to make beekeeping easier. On August 4th we have a special pleasure meeting at Monument Beach on the famous Cape Cod where bathing, boating, fishing, and a general picnic is to be enjoyed by all who accept the invitation of our host and hostess, Mr. and Mrs. M. P. Austin.—John H. Furber, Sec-Treas.

* * * * *

The North Carolina summer beekeepers' meeting will be held at Western Carolina Teachers' College, Cullowhee, August 10 and 11. A cordial invitation to all.

* * * * *

The Palmetto State Beekeepers' annual meeting will be held August 15 and 16 at Room 106, Old Chemistry Building, Clemson, So. Car. A worthwhile program is being arranged and a cordial invitation is extended to all.

* * * * *

The annual summer meeting and picnic of the **Empire State Honey Producers' Association** will be held at the home of Earl Austin, Kanona, (near Bath) New York, Saturday, August 11. All beekeepers, their families, and friends are invited to attend. There will be discussions on crop conditions, and marketing honey to bring the highest price. This is to be an old-fashioned get-together with contests and games for all, - prizes for the winners. A large honeyhouse is available in case of rain.—M. R. Carey, Sec.

* * * * *

The **Annual Vermont Beekeepers' Picnic Meeting** will be held Saturday, August 25, 10 A. M. at the summer residence of Phil Townsend. Mr. Townsend's place is in North Ferrisburg near Mt. Philo and signs will point to turning off places on Route U. S. 7. On our program will be J. R. Hepler from Durham, N. H., and Dr. Thomas Moore of Bradford, N. H. We will also have several demonstrations on methods of winter packing by different beekeepers. All beekeepers, friends, and their families are invited to come from Vermont and neighboring states. Also at this time we would like a large collection of samples of new honey; liquid, comb, and chunk for our exhibit. Everyone bring their lunch.—Charles Mraz, Sec.

* * * * *

A Fayette County Beekeepers' Picnic will be held at the farm of Henry L. Spence, Jr., Connellsville, Pa., August 10. The program will include: A demonstration on beekeeping by W. W. Clarke, Jr., Extension Specialist in Beekeeping at Penna. State College, a basket lunch, games for children and adults, and a short business meeting. There will be plenty of time to relax and discuss bees and their problems. Everyone welcome.—Henry L. Spence, Jr.

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Due to the popularity of last year's Washington's Crossing meeting, the August meeting of the **New Jersey Beekeepers' Association** will again be held at Washington's Crossing, Saturday, August 18th. The meeting will be held in Green Grove on the New Jersey side of the Delaware River. When driving on the River Road, turn east on Pennington Road. There is a blinker light for identification; then proceed to the Grove. Signs will indicate directions. There will be demonstrations on queen rearing and various methods used by various New Jersey breeders. There is ample parking space, fireplaces, and tables, and a soft ball field. There is also the McKokey house which is a national museum. You will also be able to obtain water from the famous Honeyman Spring which is visited by city dwellers with their jugs, all fugitives from chemical water. The meeting starts at 10:30 A. M.—M. H. Stricker, Sec.-Treas.

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The **Morris County Branch, New Jersey Beekeepers' Association** will meet at 2. P. M., Saturday, August 4, at the home of Dr. H. M. Potter on Route 32, about 1½ miles southwest of Bernardsville. The program will include demonstration of assembling a hive and frames, a question and answer period, and the inspection of some colonies.—C. L. Howk, Publicity.

The **Westchester County Beekeepers' Association** will hold its regular monthly meeting on Sunday, August 19, at 2:30 P. M. at the home of Frank Burgmaier, 52 Willow Drive, New Rochelle, N. Y. The topic for this meeting will be "Importance of Honey Bees for Pollinating". A cordial invitation is extended to anyone interested in bee culture.—A. M. Barnes, Publicity.

* * * * *

Bee Inspection Bill Finally Goes through in Massachusetts. — Gov. Paul A. Dever of Massachusetts signed the measure calling for an inspection of bees, equipment, and materials used in keeping and control of bee disease. Both farmers and beekeepers of Massachusetts had sought for a number of years for passage of a bee control bill but had been unsuccessful up until this year. When it was again introduced at this session of the Legislature it was earmarked for defeat, but it was given its start through the legislative machinery of the House by the excellent maiden speech of Rep. Philip F. Whitmore (R-Sunderland). —E. F. Perreault, Holyoke, Mass.

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The Northern Zone meeting of the **Illinois State Beekeepers' Association** will be held August 26 at Boy Scout Cabin, Highland Park, east of Joliet. A cordial invitation is extended.

* * * * *

The University of Arizona now offers instruction in Beekeeping and during the coming year, Frank E. Todd will be in charge of our new course entitled "The Honeybee". It will include work on the biology of the honeybee, insect pollination of agricultural crops and rudiments of practical beekeeping. —L. A. Carruth, Professor of Entomology and Head of the Department.

48th ANNUAL BEEKEEPERS' FIELD DAY AND PICNIC PENNSYLVANIA STATE BEEKEEPERS' ASSOCIATION

Cook Forest State Park, Cooksburg, Penna., August 18, 1951.

The entrance to the park is at Cooksburg on State Highway Route Number 36. Traveling from the East follow U. S. Highway Route Number 322 to Brookville, then North on No. 36 to the park entrance. Traveling from the West follow U. S. Highway Route Number 322 to Clarion, turn North on State Highway Route Number 966 to No. 36, turn East on 36 to park entrance. Those coming from northwestern Pennsylvania may wish to follow Route 36 from Titusville or Tionesta.

Program 9:30 to 12:00

Registration - 9:30 to 10:00.

Meeting called to order by President Merle P. Fisher, Granville - 10:00

Welcome - Russell M. Smith, County Agent, Forest County, Tionesta, Pa.

Inspection Progress in Pennsylvania in 1951 - H. B. Kirk, Senior Entomologist, Harrisburg.

Honeydew Poisoning of Honeybees - Prof. E. J. Anderson, in charge of Bee Culture Research, State College.

Pollination of Garden Vegetables - W. W. Clarke, Jr., Extension Apiarist, State College.

Helpful Remarks - George H. Rea, Reynoldsville, Pa.

Note: The program this year is a very short one for the reason that the afternoon will be given over to recreation and tours of the park.

Basket Lunch 12:00

Light refreshments (lemonade and coffee) will be served by Crawford and Venango County Beekeepers' Associations. Meals are available at the Cook Forest Inn.

1:30 to 2:30 Games and Contests

Games and contests will be in charge of Prof. Anderson. The schedule will be followed promptly so that the tour through the park can be started at 2:30. The tour will be in charge of Russell M. Smith, Forest County Agent. It will begin with a hiking trip at 2:30, and will be concluded with an auto tour to Seneca Point area at 3:15. Bring your family, friends, and all who are interested in a day of outing and fun. This is one of the rare beauty spots of Pennsylvania.

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PROGRAM BEEKEEPERS' SUMMER MEETING Fairgrounds, Medina, Ohio, August 7, 1951

Registration

10 a.m. Welcome Addresses: —Mayor of Medina,
Marshall Whistler, County Extension Agent, Medina County.
H. H. Root, President - A. I. Root Co.

Address: —George Rehman, President - Ohio Beekeepers' Association.

Responses.

Announcements.

Appointment of Committees.

Production Reports.

How 1951 Legislative Changes in the Ohio Apiary Law will affect the Beekeeper. —S. E. Bailey, State Apiarist, State Dept. of Agriculture.

Discussion.

Afternoon

Presiding — George Rehman, North Baltimore, Ohio.

Introduction of out-of-state visitors.

Eighty Years of Beekeeping. —Dr. E. R. Root, Dean of American Beekeepers.

Responses.

Panel Discussion:
Beginners' Troubles. —Irvin R. VanDevier, Leader; Medina, Ohio.
(Six or more beginner beekeepers will participate)

Demonstration and Contests.
"Early Queen Rearing in the North". —Prof. E. J. Anderson, Pennsylvania State College, State College, Pa.

Tour of Red Clover Fields.

(Continued on page 508))

Buy and Sell

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 15c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding publication.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Onsted, Michigan.

NEW CROP of honey shipped daily from producer in Florida. Pure orange blossom, 5 lbs., $2.25; Pure Florida cut comb honey, 5 lb. pail, $2.75. No C.O.D. orders. All shipments prepaid. E. R. Raley, Daytona Beach, Florida.

ANY GRADE—Any amount. Alexander Co., 819 Reynolds, Toledo, Ohio.

CLOVER extracted honey in sixties. Abram Brubaker, Lancaster, Pa., Rt. 1.

COMB HONEY FOR SALE — Will be ready to ship in July. Write for prices. C. W. Schrader, Waterville, N. Y.

HONEY FOR SALE; 60-lb. cans, pails, glass jars, comb honey, clover, buckwheat in August, truck loads delivered. Carloads, most anything you want. M. E. Ballard, Roxbury, N. Y.

IOWA Honey. Extra white. Light amber. New cans. Truck lots. Russell D. Smalley, Beaver, Iowa

HONEY, white extracted, mostly clover, in 60 lb. cans, ready for bottling, 16c per lb. fob Louisville. Lose Brothers, 206 E. Jefferson St., Louisville, Ky.

Truck and carlots sweet clover honey in 60 lb. cans, 10c per lb. F. O. B. Omaha. John L. Tideswell, 2711 No. 63rd St., Omaha, Nebraska.

MICHIGAN'S finest raspberry, basswood, clover comb honey, in 4 x 5 sections. Fancy, $8.00; No. 1, $7.00; No. 2, $6.00 case. E. Z. Quick Way B Farms, Walloon Lake, Michigan.

COMB HONEY for sale. Gordon Pratt, Munnsville, N. Y.

GEORGIA chunk comb honey packed in 2½ and 5 lb. jars. Georgia Bee & Honey Apiaries, Hortense, Ga.

STOLLER'S fancy clover honey in new sixties. Stoller Honey Farm, Latty, Ohio.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on COD terms except where the buyer has thoroughly established his credit with the seller.

OFFERING 9½ cents lb. for good buckwheat honey. Eastern Food Products, 115 Division Ave., Brooklyn, N. Y.

CASH FOR YOUR HONEY — Light extracted or comb. Regular trade send sample. 60 lb. cans furnished if desired. W. R. Moomaw, Stone Creek, Ohio.

CASH FOR BEESWAX. Write as to quantity and we will quote price. Muench-Kreuzer Candle Co., Inc., Syracuse, N. Y.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & Company, 1360 Produce St., Los Angeles 21, California.

ALL GRADES HONEY AND WAX WANTED—Mail samples, advise quantity and cash prices delivered to us. HONEY SALES COMPANY, 1808 NO. WASHINGTON AVE., MINNEAPOLIS 11, MINN.

CARLOADS or less of honey and wax. Send sample and price. Alexander Company, 819 Reynolds, Toledo, Ohio.

WANTED — White and amber honey. Any amount. D. F. Treap, R. D. 3, Box 222, Kent, Ohio.

HONEY AND WAX WANTED — Mail sample. Advise quantity. BRYANT & SAWYER, 2425 Hunter St., Los Angeles 21, California.

CASH for your comb honey and all types extracted. Send sample and best price. Buckeye Honey Co., 3930 No. High St., Columbus 2, Ohio.

BEFORE YOU SELL your clover honey contact us. Send samples and tell us how much you have. The Delaware White Clover Apiaries, 139 West William St., Delaware, Ohio.

WANTED: Bottling quality clover honey. Send sample and lowest cash price, fob your station. Cloverdale Apiaries, Fredonia, N. Y.

WANTED—EXTRACTED HONEY— Clover or light amber. C. H. Denny, Rt. 4. Ravenna, Ohio.

WRITE FOR shipping tags and quotations on rendered beeswax. We buy from one pound up and if you have over 25 pounds let us work it into foundation for you at a 25 percent saving. Walter T. Kelley Co., Paducah, Kentucky.

WANTED — White extracted or comb honey. Send sample. Millersport Honey Co., Millersport, Ohio.

WANTED — Wild Flower Honey with good flavor. State price F.O.B. and amount available. David J. Johnson, Clarendon, Pa.

COMB HONEY WANTED — Section - Cut - Chunk. Please mention quantity you have and price wanted. Bank reference on request. Frank H. Hauck, P. O. Box 84, Kew Gardens, N. Y.

FOR SALE

We carry a full line of ROOT QUALITY Bee Supplies. Prairie View Honey Co., 12303 12th St., Detroit 6, Mich.

WRITE FOR CATALOG — Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies and Comb Foundation, Onsted, Mich.

The only comb foundation plant in the East. We sell foundation, work your wax, render combs and cappings. Robinson's Wax Works, R. D. 3, Auburn, N. Y.

BEE SUPPLIES of all kinds. Catalog free. Hodgson Bee Supplies, Ltd., 565—13th Ave., New Westminster, B. C. Canada.

YOUR WAX WORKED INTO quality medium brood foundation, 23c pound; 100 pounds, $18.00. Medium brood foundation for sale, 80c pound. Fred Peterson, Alden, Iowa.

THE BIGGEST BEE SUPPLY Catalog published (64 pages) free for the asking. Listing many items not found in other Catalogs. No agents—buy direct and save 20%. WALTER T. KELLEY CO., PADUCAH, KENTUCKY.

FOR SALE — Electro-Flo Filling Machines. Designed for Honey. Fills containers automatically. Write for information, or see in operation. Hancock Honey House, Hancock, Iowa.

FOR SALE: 30 colonies of bees in fine condition, working in sweet clover fields, 80 supers all 10-frame; 1 20-frame Root radial extractor. Van Lingen Bros., Renville, Minn.

FIND MANY BEE-TREES with my outfit. Grover, Bristol, Vermont.

NEARLY NEW Woodman Universal extractor, baskets, and uncapping tank, Macy electric knife, 45 gallon storage tank, also Foster Hive Lifter. Lyman Apiaries, Greenwich, N. Y.

QUEEN OUTFIT, 300 Nuclei, 35 colonies bees, for sale cheap. D. W. Howell, Shellman, Georgia.

22 MODIFIED DADANT comb honey colonies. Robert Turner, Dunkerton, Iowa.

Queen excluders for 8-frame boxes. Welday's Orchard, Smithfield, Ohio.

HONEY WANTED
Carloads and less than carloads. Mail sample and best prices in all grades.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

Michigan Headquarters for
Root QUALITY
Bee Supplies
Complete Line of Bee Supplies and Honey Containers
Prompt Service
Michigan Bee and Farm Supply
510 N. Cedar St.
Box 7 Lansing, Michigan

G B. Lewis Wooden Goods!
Dadant's World Famous Crimp Wired Foundation. — Their 85 years' experience is your safeguard. Catalogue on request.
Dotson's Apiaries
3059 W. Roxboro Rd., NE
ATLANTA, GEORGIA

HONEY LABELS
Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

4-Way Hybrid Queens

Available direct from the Kelley's Island Laboratory at the following prices.

1-10, ...	$1.50 each
11-25, ...	1.30 each
26-up, ...	1.00 each

Honey Bee Improvement Co-op. Assoc.
B & Z Bldg. O.S.U.
Columbus 10, Ohio

John M. Davis Strain Italian Queens

1-24	24-up
$1.25	$1.20

Daughters of ABBA Tested Stock

1-24	24-up
$1.50	$1.40

LITTLE APIARIES
Shelbyville, Tenn. P.O. Box 122

We are interested in Buying HONEY
Send sample and price
T. J. Paisley Co.
Medina, Ohio

BEE LINES TO THE EDITOR

(Continued from page 452)

it was slow at least compared with Scotland, as I can sell all I can get at from 3/6 to 4/ per lb. jar. This is our heather time in Scotland, but I am afraid it is going to be a wash out. The rain hardly ever stops, the moors are bleak enough without rain." G. A. S., Scotland.

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"In Gleanings for January 1951, Howard M. Myers of Ransomville, N. Y., bemoans poor honey sales and also relates of poor fruit and vegetable sales and even dumping some and not harvesting others and then adds at the end of his lament: 'Why this condition exists when payrolls are exceptionally high with practically full employment is entirely beyond my comprehension.'

"Want to know?

"Government has promised labor higher pay and cheaper food!

"So what happens, the farmer must produce cheaper at a time when everyone else gets more for their finished products and so you can't blame farmers for giving up." —N. K., Iowa.

Woodman Universal 4 — 8 capacity extractor. Used two seasons, $35.00. J. E. Moore, 4239 Crocker Ave., Minneapolis, Minn.

555 — 10-frame 2-story colonies, $8.00 each, ready to go. Selling account other business. Also Chincillas (not rabbits) for sale. These fascinating beautifully furred little animals from the Andes are now in limited production in America and are a profitable source of income in the sale of good breeding stock. Write for information to E. L. Harris, Inca Chinchilla Ranch, 1721 Oakdell Drive, Menlo Park, Calif.

FOR SALE—1500 colonies free of disease, with all equipment in A-1 condition. No other beekeepers in territory. 35 registered locations. Can also include truck, honey house and home. Highest reasonable offer. C. E. Cheeley, Columbus, Montana.

BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

CAUCASIANS—Booking orders for 1952. Lewis & Tillery Bee Co., Route 1, Box 280, Greenville, Ala.

BEES FOR SALE AND LEASE—Montana, Wyoming, Idaho, Nebraska. Contact Bradshaw & Sons, Wendell, Idaho.

CAUCASIAN BEES AND QUEENS. Extra good workers and very gentle. 2 lb. with queen $3.50; 3 lb. with queen, $4.50. Untested queens, 1 to 25, each $1.00; 25 up, 90c. Satisfaction guaranteed. Black River Apiaries, Elliott Curtis, Mgr., Currie, N. C.

YANCEY HUSTLERS, Three-band Italians—bred for business. Select queens, $1.00 each; $8.00 per dozen. Guaranteed to please. Caney Valley Apiaries, 2500 Nichols, Bay City, Texas.

GOLDEN ITALIAN bees and queens. Real yellow and very gentle. 2 lb. with queen, $3.50; 3 lb. with queen, $4.50; Select untested queens, 1 to 25, $1.00; 25 up 90c each. Satisfaction guaranteed. Carolina Bee Farm, Graham, N. C.

GOLDEN QUEENS, $1.00 airmail; 24 to 49, 90c; 50 and up, 80c. O. E. Brown, Rt. 1 Asheboro, N. C.

NORTHLAND ITALIAN QUEENS.—For production. $1.00 each. 10 up 90c. Shirl Baker, Rodney, Michigan.

THREE-BANDED ITALIAN bees and queens, good workers, and very gentle. We specialize in queens. 2 lb. with queen, $3.50; 3 lb. with queen, $4.50. Select untested queens, 1 to 25, $1.00 each; 25 up, 90c each. Write for prices on larger lots. Satisfaction guaranteed, prompt service. Phone 4703. Alamance Bee Company, Geo. E. Curtis, Mgr., Graham, N. C.

SHORT'S QUEENS ARE GOOD QUEENS. Try them and you will find their colonies tops in production, gentleness and freedom from diseases. Three-banded Italians only. Used by leading honey producers for more than 30 years. Requeen now for maximum production next year. $1.00 each; 10, $9.00; 25, $20.00. Postpaid. Prompt shipment. H. C. Short, Fitzpatrick, Ala.

REAL PETS: Brown's non-stinging bees -good producers. Season's price for queen, $2.00. Brown's Apiary, Cape May Court House, N. J.

SEEDS

HONEY PLANTS our specialty. Catalog on request. Pellett Gardens, Atlantic, Iowa.

MISCELLANEOUS

CIRCULAR — On requeening or making increase at the lowest possible cost. C. S. Miller, Apiculturist, Rocky Ford, Colo.

MAGAZINES

WESTERN CANADA BEEKEEPER—Official organ of the Manitoba Beekeepers' Association. One year, $1.50; two years, $2.25. three years, $3.00. In combination with Gleanings in Bee Culture, $2.75. 211 Affleck Bldg., Winnipeg, Canada.

THE BEE WORLD, international and scientific journal on bees and beekeeping, with apicultural abstracts. Monthly, including membership in the Apis Club, $1.75 per annum. Specimen copy 12c U. S. postage stamps, from The Secretary, The Way's End, Foxton. Royston, Herts, England.

Read the South African Bee Journal. Published every two months. Subscription 7/6 per year to the Treasurer, P. O. Box 3306, Cape Town, South Africa.

KNOW interesting facts concerning the bees of India through the INDIAN BEE JOURNAL, published in English by the Bhupen Apiaries (Himalayas), Ramgarrh, Dist. Naini Tal, U.P., India, or available through them. Subs. Rs7/ or 10 shillings or 2.25 dollars per annum. Single copy, Rs ¼s. 1/9 or 40 cents (International Money Order). Payment in mint postage stamps of your country accepted. .

DO YOU FIND it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any other magazine published. Subscription $1.00. Hotel Cactus, San Angelo, Texas.

TOO LATE TO CLASSIFY

WANTED comb and extracted honey. Wm. March, R. D. 3, Mantua, Ohio.

MOTTS strain of Italian Queens, 65c each, any number. 20 year's experience rearing queens. C. G. Ellison & Sons, Belton, S. C.

OVER 700 colonies, sweet clover locations, honey flow from spring till fall. Home, fully equipped shop, honey packaging equipment and market, etc. Best reasonable offer. Earnest Galloway, Bancroft, Idaho.

CLOVER honey in sixties, ton or carload. E. Gamble, Adams, N. Y.

ATTENTION Beekeepers in Buckwheat areas, sell through us, no middleman's profit assures you highest prices, we assume credit risks, our brokerage is low. We are honey brokers established 1910. Write: Chas. E. Farris Co., 99 Hudson St., New York, N. Y.

Jensen Says - Requeen Now!

Requeen any time a queen is found doing poorly. But for wholesale requeening better pick a time when some nectar is coming in for best acceptance of the new queens.

Getting at least two cycles of brood hatched before cold weather slows up egg laying is fine wintering insurance. More winter losses are attributable to poor queens than any other cause except the lack of proper stores.

Your choice of Two Outstanding Strains:

Queens:	"Magnolia State" Italians	Dadant "Starline" D. R. Hybrids
1-24	95c each	$1.20 each
25-99	85c each	1.10 each
100-up	75c each	1.00 each

Jensen's Apiaries
Macon, Mississippi

Italian Queens - - Queens

Nice large, laying queens

1-99, 55 c each 100 up, 50 c each

Mitchell's Apiaries Bunkie, La

We Have Nothing to Sell
But a Good Bee Journal
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Canada's
National Monthly Magazine
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REQUEEN NOW

As soon as you get your honey off, requeen those colonies. A vigorous young queen will mean a lot of young bees this fall for good wintering. Don't take a chance on an old worn-out queen.

Italians **Caucasians**

Italian Hybrids

Prices

1 - 24	$ .75	each
25 - 99	.70	each
100 - Up	.60	each
Tested Queens	1.50	each

Queens Postpaid-Airmailed and/or Clipped-No Extra Cost

The Stover Apiaries Mayhew, Miss.

GET THEM WHILE YOU CAN!

Mail Order Prices

We have available the following bee supplies which our inspectors have not passed as first line quality — these are the same as our pre-war mail order brand — slight defects in the material make these great savings possible for you.

This is Offered as "Mail Order Grade"

C-2	Full Depth Supers, empty, 5's	$8.30 per carton
C-13	Shallow Supers, empty, 5's	5.20 per carton
D-2	Beeway Supers, empty, 5's	4.25 per carton
B-2	Metal Covers with Inner Covers, 5's	11.10 per carton
B-13	Bottom Boards, 5's	6.15 per carton
G-6	Standard Frames in 100's only, long top	9.95 per carton
G-16	Standard Frames in 100's only, 2-piece bottom bars	9.95 per carton
G-22	Shallow Frames in 100's only, long thin top	7.65 per carton
	1950 ABC & XYZ of Bee Culture (slightly damaged) does not affect value of book	2.50

Available From Medina Only

Mail, Freight, and Express Charges Extra

Net Cash with Order — No Discounts

We reserve the right to return your cash if our stock is exhausted when your order is received.

The A. I. Root Company Medina, Ohio

TALE OF TWO FALL HONEY FLOWS

(Continued from page 473)

require a little salesmanship. If you have a well-flavored honey, neatly packaged and labeled, it is worth as much as you ask for it, within reason, of course. If someone mentions the low prices advertised, it is not good business to say that such honey is no good. It only harms the honey business as a whole.

It is quite possible to change the entire beekeeping outlook by organizations of local and state beekeepers' associations. Prices for both honey and rental services could be established so that the neighborhood or state price would show some uniformity. Such prices should be high enough to give the beekeeper a good return on his investment and labor. A beekeeper can work alone to better his own condition, but if he can get his associates to work with him the battle is half won.

The trouble with most of us is that we like to travel the road of least resistance. We like to let some one else pave the way for us. If beekeeping as an industry is to assume its rightful place in the national economy, it is up to us, you and me, to put our shoulders under the weight of our problems. Government price support and the honey packers will not be of great help. It is entirely up to us as honey producers to help ourselves, not tomorrow or next year, but now.

"Never put off until to-morrow what you can do to-day."

Package Bees and Queens

Jackson Apiaries

Funston, Georgia

3-WAY HYBRID QUEENS

Requeen your colonies with the queens developed on Kelley's Island, Ohio.

We have recently received new breeder queens and plan to have queens available all fall.

Do not confuse these queens with other hybrids. Specify Kelley's Island 3-Way Hybrid or Regular stock postpaid.

1-26	$1.00 each
26-100	.90 each
100-up	.85 each

We wish to thank our many customers for the nice business given us this spring. If you were pleased, tell others, if not, tell us. It is our desire to please.

Rossman & Long

P. O. Box 133, Moultrie, Ga.

QUEENS

YORK'S QUALITY BRED ITALIAN QUEENS

The Strain that Leading Honey Producers Prefer

1 to 24	25 to 99	100 up
$1.00 each	85c each	75c each

None better regardless of price

York Bee Co.

Jesup, Georgia

(The Universal Apiaries)

* * * * *

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Howard Weaver's Caucasian Queens

1 - 24	$1.00	25 - 49	$0.90	50 up	$0.80

No charge for clipping or marking.
Air mailed on request.

Howard Weaver **Navasota, Texas**

XUM

BETTER BRED QUEENS **THREE BANDED ITALIANS**
Watch those failing queens and poor colonies. Be sure and replace them with our Better Bred Stock and watch them pay off.
QUEENS — — 60c Each
Calvert Apiaries **Calvert, Alabama**

A FAMOUS STRAIN OF YELLOW ITALIANS

We will have a good supply of choice young queen bees ready for immediate shipment throughout the summer and fall months. Wire or airmail your orders to us for prompt efficient service.

25% DISCOUNT EFFECTIVE BALANCE OF SEASON OFF PRICES BELOW

1-5	$1.35	5-15	$1.30	15-25	$1.20
25-100	1.15	100-up	1.05		

Select Tested Queens - $5.00, no discount.

The Daniels Apiaries **Picayune, Miss.**

SUNKIST

Light colored Italians or Kelley's Island queens.
Airmailed - postpaid - clipped, each, ... 65c

Sunkist Bee Company
Convent, La.

GOOD QUEENS

From ABBA Tested Stock
75c each

J. F. McVay
Jackson, Alabama

TALE OF FALL HONEY FLOW

(Continued from page 473)

and sugar syrup, much of it unripened, small clusters, and practically no pollen for the all-important early spring brood. As the result, one large outfit will be cleaning up dead hives until June 1st.

Here is just one example of what a few weeks of cold rainy weather can do to a beekeeper.

It is also an explanation as to why so many "text-book" beekeepers become discouraged and sell out.

Basing my opinion on the above experiences, I believe an early fall flow is worth thousands of dollars to the extensive beekeeper apart from any surplus honey obtained.

Protect Your Future
Buy U. S. Savings Bonds

JUST NEWS

(Continued from page 501)

Evening

BANQUET. Medina Methodist Church. Toastmaster. —Arthur Dean, Pittsburgh, Pa.
Address. —C. M. Ferguson, Director - Agricultural Extension Service, College of Agriculture, O. S. U., Columbus, O.
Address. —James I. Hambleton, Apiculturist, Div. of Bee Culture, Bur. of Entomology & Plant Quarantine, U.S.-D.A., Beltsville, Maryland.
ENTERTAINMENT.

August 8

Forenoon

Presiding — H. R. Swisher, Springfie d, Ohio.
Announcements.
Short Business Session of Ohio Beekeepers' Association. - Walter Thomas, Sec.
Comb and Bulk Honey Production. —M. G. Dadant, Dadant & Sons, Hamilton, Illinois.
Panel Discussion:
Methods and Procedures in Comb Honey Production. —Chas. A. Reese, Leader; Extension Apiarist, O.S.U., Columbus, O. Geo. Rehman, M. J. Deyell, Elmer Smith et al participating.
Ontario Beekeeping Problems. —Prof. Gordon F. Townsend, Dept. of Apiculture, Ontario Agricultural College, Guelph, Canada.

Afternoon

Pollination Problem with Farm Crop. — W. W. Clarke, Extension Apiarist, Pennsylvania State College, State College. Pa.
Panel Discussion:
Major Beekeeping Problems for 1951 —Dr. W. E. Dunham, Leader.
(Five or more beekeepers participating)

BEEKEEPING IN HAWAII

(Continued from page 472)

The consumption of honey can be increased in the Islands to some extent but the industry will have to export a major portion of its production. A system of certifying the quality of the samples of honey offered for sale by beekeepers will protect both the producer and the buyer. At one time large quantities of Hawaiian honey were shipped to European markets or supplied to naval units. These outlets can be developed. An investigation is being made into new uses for Hawaiian honey and in retail containers which will take advantage of the general publicity given to Hawaii and to its products.

Kiawe honey, with its white color, mild flavor, and quick granulating properties is well adapted to processing into creamed honey.

With better outlets for its honey, the production of the beekeeping industry could be increased about 100 per cent and still be within the carrying capacity of its floral conditions.

Although the Islands are called the Paradise Islands, they are by no means a beekeeper's paradise. The problems of bee diseases, the wax moth, and high production costs are as troublesome as in many places on the mainland. The territory does have an excellent climate and the people are most hospitable. It is beautiful from the air and in many areas the living conditions are ideal. But it has its deserts and cactus, its rain, mud, and wind in certain areas and seasons. The chances are that for time eternal beekeepers in the colder sections of the United States will wish they could be in Hawaii, at least part of the year, and some in Hawaii would like to have the pleasure of being in a little snow, now and then, or a change from the rather uniform climatic conditions. We can't have everything but we can make the most of what we have by exchanging our experiences with others.

High Quality Italian Queens
by Air Mail
75c each
10 or more, 65c each.
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KNIGHT'S

Three-Banded Leather-Colored
Italian Queens

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75c each, any number

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- No charge for clipping
- Satisfaction guaranteed
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Hayneville, Alabama

3-banded Italian

Queens	$1.00
2-lb. pkg. with qn.	3.00
3-lb. pkg. with qn.	4.00

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Hattiesburg, Rt. 2, Miss.

KOEHNEN'S
Package Bees and Queens
For Quality and Service
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Healthy Italian Bees & Queens
Write for 1951 Prices
Georgia Bee & Honey Apiaries
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Protect your future. Buy U. S. Savings Bonds

YOU KNOW
Young queens are better than old ones. Requeen now for a better crop next year.
Italians only.

Improved D. R. Untested queens, ...$ .50 each

Tested queens, ... 1.00 each

Merrill Bee Company
P. O. Box 115
State Line, Miss.

OHIO QUEENS
Gentle 3-Banded Acclimated Italian Stock
"They Produce"
1-24 $1.00 25-up .90c
Select tested, $2.00 each
BARGER APIARIES
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Make your package LOOK better and SELL better, with

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LABEL DIVISION
Democrat Printing & Litho. Co.
Little Rock, Arkansas

NORTH, EAST, WEST AND SOUTH

(Continued from page 491)

the current year's cotton acreage for Texas is estimated at over 13 million acres. Cotton might well be our Number 1 source of honey as it was 30 years ago. During the present year insect damage is relatively light and only minimum applications of insecticides were needed to keep insect pests under control. Reports so far have indicated no loss of bees from poisoning. Cotton yields nectar reliably only in the heavy clay soils, in alluvial soils of river valleys and in fertile soils under irrigation. Due to dry weather, cotton so far has yielded nectar rather sparingly this year even in the best adapted soils. However, the blooming period has not yet reached the peak in north and northwest Texas. With timely rainfall cotton could greatly contribute to the current year's honey crop.

In northeast Texas where the vetch seed crop showed much promise during late May, excessive rainfall delayed harvesting with the result that much seed was lost from shattering. Also during the latter part of the blooming period, aphid infestation required applications of insecticides which caused loss of field bees in some apiaries.—A. H. Alex, College Station, Texas.

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Italian, Caucasian, and Carniolans
Three Isolated Mating Yards to Prevent Mixing Breeds
ITALIANS .....$0.90 each
Caucasians ..... 1.00 each
Carniolans ..... 1.25 each
Italian queens after June 1st, 60c each, any number.
All Queens shipped by Air Mail and guaranteed to please.
Walter D. Leverette Apiaries
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The package season is now over and we have a surplus of fine young Kelly Island Improved Hybrid queens, fresh daily from your Louisiana bee farm.

Each by prepaid air mail from Paducah 75c

Lots of 25 and more, 65c each.

Walter T. Kelley Co., Box 210, Paducah, Ky.

LADYLIKE

Mountain Gray Caucasian Bees

produced over a 200-pound average in a 1000-colony outfit during 1950.

They will produce record crops for you if properly handled. Our circular "How to Handle Caucasian Bees" is free on request. Select untested Caucasian queens, 75c each after June first. Health certificate with each shipment.

Caucasian Apiaries Castleberry, Ala.
Rt. 1

Italian Queens Package Bees

	1-49	50-99	100-up
2 lb. w/q	$3.50	$3.25	$3.00
3 lb. w/q	4.50	4.25	4.00
4 lb. w/q	5.25	5.00	4.75
5 lb. w/q	6.00	5.75	5.50
Italian queen	1.10	1.10	1.00

Packages are shipped with full liberal over-weight and live arrival guaranteed. Our dealings with you must be 100% satisfactory. Replacement or refund on any shipment when bad order receipt is received by us. Our queens are second to none in performance. Queens clipped on request and sent airmail postpaid.

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Hardy, prolific, rapid build-up, best of workers. Caucasians have the longest tongue of any race. Both races build beautiful white combs. BOTH ARE THE GENTLEST OF ALL RACES OF BEES. Gentleness is safest in towns, near neighbors, or near streets or highways. Gentleness saves time, sweat, patience, and work. Discount on quantity orders. Ask. Begin preparing for 1952 season this month. August is a good month to requeen.

Prices, Both Races:

Untested Queens .....$1.00 each
Tested Queens ..... 1.75 each

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